NEW REMEDIES.

AN ILLUSTRATED MONTHLY TRADE JOURNAL OF MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

VOL. VIII., NO. 8. WHOLE NO. 62.

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PUBLISHED BY

WILLIAM WOOD & CO., No. 27 Great Jones St., N. Y.

AUGUST, 1879.

SUBSCRIPTION PRICE, per year, - - - - - $2.00
SINGLE COPIES, - - - - - - - - - .20

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Advertisements of Situations Wanted, Drug Stores for sale, etc., etc., Twenty-five cents per line, each insertion.

Special quotations, sample copies, etc., on application.

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EDITORIAL.

THE most notable topic in pharmaceutical circles at present is the abolition of the duty on quinia salts. On the 1st of July, the "McKenzie Quinine Bill," as it was called, passed the Senate, was approved by the President, and reads as follows:

Be it enacted, etc., That from and after the passage of this act, the importation of salts of quinine and sulphate of quinine shall be exempt from customs duties, and all laws inconsistent herewith are hereby repealed.

We shall not attempt to discuss the propriety of the measure, the ostensible object of which is to lessen the cost of quinia to the sick, but there is much ground for doubting whether it will be followed at once by a corresponding fall in price.

The only persons who are likely to suffer immediately are the manufacturers in this country, and it is reported in the Philadelphia papers that one of these firms intend to gradually work off their stock of cinchona bark, which will take from six weeks to two months, and thereafter to procure barks only when they can be had at low rates. It is probable that the South American barks will mainly be worked for the separation of other cinchona alkaloids, quinia being considered as a by-product.

It will be observed that the law does not affect the duty on the other alkaloids of Peruvian bark and their salts, two of which have begun to take the place of quinia for many purposes. In the separation of these there may still remain a profit to our manufacturers, and it is not unlikely that this advantage will be sufficient to keep their works in operation. With an abundance of cinchonia and cinchonidia of fair quality and low price in the market, it may be that foreign manufacturers will be unable to form a combination to keep up the cost of quinia sulphate.

One thing will demand attention, and that is the *quality* of the quinia salts imported to our market. Heretofore we have made nearly all that we have consumed in this country, and have had comparatively little experience with quinia salts of foreign manufacture, and it would be a wise course to pursue if our customs authorities should, for a time, exercise a pretty thorough scrutiny of the preparations of quinia imported, and assure themselves that they *are not composed wholly or in part of dutiable adulterants.*

Should the abolition of the tariff on quinia lead to a considerable reduction in its retail price, we know no valid argument with which to oppose an effort to remove the customs duties from all officinal substances used as medicines, and to open our market to their foreign manufacturers.

Taking opium as an example, there exists no manufacturing interest to be protected by a tariff, and, unlike quinia, there are no substitutes for it. We hazard nothing in saying that, of the two, opium is far more necessary to the comfort and welfare of the sick than is cinchona bark; yet when we look at the position which they have occupied in regard to the tariff we find:

Peruvian bark	*Free.*
Cinchonia muriate	40%.
Quinia sulphate	20%.
" other salts of	45%.
" amorphous	20%.
Opium, crude	$1.00 per lb.
" extract of, and all preparations not otherwise provided for and retaining the form of opium, and used for like purposes	$6.00 per lb.
" same, liquid, if medicinal	40%.
" medicinal preparations of, proprietary, as patent medicines	50%.
" prepared for smoking, and all other preparations of opium not otherwise provided for	$6.00 per lb.
Morphia, and all salts of	$1.00 per oz.

Therefore, if the welfare of the sick is to be the ground on which to modify our tariff rates, it would have been fairer, in our estimation, to have begun the abolition of the tax with opium rather than with quinia. It may be claimed

that the difference in cost is practically so considerable that the hardship has been greatest in the case of quinia. This may, to some extent, be the case, but it has also led to a more careful study of the antiperiodic value of numerous other substances, and has demonstrated that in many cases the expensive salts of cinchona bark are used where less expensive articles would be equally efficient. It is the fashion of using the cinchona alkaloids indiscriminately which keeps up their price, rather than their intrinsic value.

We shall await with much interest the effects of this modification of the tariff upon other industries, and shall not be surprised if its success should be an entering wedge to convert our tariff into one for revenue rather than one which is likewise intended to protect home industries.

The Philadelphia *Journal*, in its articles above alluded to, quotes Mr. Farr, of the firm of Powers & Weightman, as having remarked that

"The removal of the duty will not in the least affect the cost of quinine to the consumer. The price held by retail druggists for the article is 3 cents per grain, $14.40 per ounce, making no allowance for waste or deficient weight. In reality, the dealer gets about $13.00 per ounce, at 3 cents a grain, of which $9.50 is profit when he sells quinia, and $11.35 when he palms off cinchonidia for the more expensive article."

As might have been expected, the publication of such statements led at once to some action on the part of the retail druggists of Philadelphia, who, therefore, held a meeting of their Trade Association on the 3d of July, and appointed a committee, who have reported as follows:

"We assert, after freely conferring with members of the trade, that the statements in regard to the retail druggists' tariff of charges for quinine are positively untrue, and well calculated to create an erroneous impression upon the public mind. We unhesitatingly assert, and we are fully prepared to sustain the assertion with ample proof, that it is not usual or customary among the retail druggists of this city to charge more than one and a half and certainly not over two cents per grain for quinine at this present time. As the wholesale rates of quinine are now three dollars and a half per ounce avoirdupois, each ounce containing 437½ grains, the wholesale price per grain will readily be seen to be about three-quarters of a cent, and the profit arising from the sale of it at one and a half to two cents will certainly leave a margin very far below three or four hundred per cent as asserted. The charge that we do not lower our prices, even though the wholesale prices were reduced, is also false, for our prices are not optional with us, but influenced by a lively and keen competition. In regard to the charge of substituting cinchonidia, the cheaper alkaloid, for quinia, if Mr. Farr, or any one else, has personal knowledge of any parties who practise this fraud, it is clearly his duty to expose them. We have no such knowledge, and are determined to defend the profession against what we believe to be a false accusation."

Statements similar to those of Mr. Farr have appeared in the daily papers of New York and other cities, and it is not improbable that the retail pharmacists in different portions of the country will find themselves called upon to take official notice of them in some such manner as has been adopted by the Trade Association of Philadelphia Druggists.

It affords us great pleasure to present to our readers, with the present number, an excellent portrait of Prof. Maisch, of Philadelphia, whose name has been so long and prominently identified with the development and progress of pharmaceutical literature and education in our country, and who stands one of the foremost in attainments, influence, and honors among American pharmacists and pharmaceutical teachers.

John M. Maisch was born at Hanau on the Main, Germany, January 30th, 1831. He came to the United States in in 1849, and entered the drug business in Baltimore; he subsequently served as clerk in Washington, D. C., from 1851 to 1853, and in Philadelphia from 1853 to 1859. In the latter year and place, he opened a pharmaceutical school for apprentices and clerks, preparatory to their entering the College lectures. In 1861 he accepted, and filled until February, 1862, a professorship at the New York College of Pharmacy, when he took a position in Dr. Squibb's laboratory in Brooklyn. In 1863 he returned to Philadelphia, and obtained the position of chemist to the U. S. Army Laboratory, in which he remained until its discontinuance in 1866. Mr. Maisch then set up in business for himself, opening a drug store in Ridge ave., Philadelphia, which he conducted successfully until 1871, when he disposed of it in order to be able to devote his whole time and work to the largely increasing duties of his professorship, to editorial labors, and to scientific and literary pursuits.

In the fall of 1866, Mr. Maisch was called to the chair of Pharmacy at the Philadelphia College of Pharmacy, in place of Prof. Procter; one year afterwards an interchange of professorships was effected between Profs. Parrish and Maisch, the former taking the chair of Pharmacy, the latter those of Materia Medica and Botany, which he has ever since held. When the College added to its course of instruction a laboratory school of practical chemistry, in October, 1870, this was also intrusted to, and is still in charge of, Prof. Maisch. In 1871 he succeeded Prof. Procter in the editorship of the *Amer. Journal of Pharmacy*. Prof. Maisch joined the Amer. Pharmaceutical Association in 1856, in 1863 he was elected its first Vice-president, and has been its permanent secretary and editor of its annual Proceedings since 1865; he is also a member and honorary member of several pharmaceutical and scientific associations at home, and an honorary member of the pharmaceutical societies of Belgium and Switzerland.

Prof. Maisch's contributions to pharmaceutical literature began in 1854, and have ever since been continued both in the *Amer. Journal of*

Pharmacy, and in the Proceedings of the Amer. Pharmac. Association. An enumeration of his published essays and researches, embracing practical pharmacy, chemistry, and materia medica, would occupy too much space in this brief sketch; a complete list of them may be found on pages 113 and 114 of the Proceedings of the Centennial of Chemistry at Northumberland, published in the August and September numbers of the *Amer. Chemist* of 1875. In 1874, Prof. Maisch has prepared a revised edition of Griffith's well-known "Universal Formulary," and quite recently has enriched American pharmaceutical literature by the comprehensive and elaborate compendium "the National Dispensatory," edited jointly with Prof. Alfred Stillé.

The most efficient and valuable services which Prof. Maisch has rendered to American pharmacy consist in the strong impetus and the strictly scientific direction which he has given to the study of pharmacognosy. Materia Medica was, and still is, taught in some pharmaceutical schools by non-pharmacists, generally by physicians. If not the first pharmaceutical professor of this important branch of pharmaceutical knowledge and proficiency, Prof. Maisch certainly is the first one who introduced here true principles and exacter methods of study and research; and he stands in this special department, in our country, unrivalled in application and success, as an investigator, teacher, and writer. In common with distinguished coworkers, he has largely contributed to raise the Philadelphia College of Pharmacy to its high standard and to give it the reputation which it justly enjoys, and by which it so long has exercised a potent and elevating influence upon American Pharmacy, and upon the rising generation of pharmacists throughout the United States. In this connection, the various instructive and critical valedictory and introductory addresses delivered since 1869 by Prof. Maisch deserve special mention for their good judgment and sound counsel.

Like his distinguished seniors, the late Profs. Parrish and Procter, gratefully remembered, Prof. Maisch holds the elevation of pharmacy, in our rapidly growing and progressive country, among the high aims of his active life; being their equal in earnestness of purpose, in general and professional culture, and in uncompromising integrity and honor, he has more than realized the expectations which Prof. Procter, when introducing him to the editorship of the *Amer. Journal of Pharmacy*, expressed in these genial words, which ever since have met with a cordial and thankful response from the large and steadily increasing circle of his former students, and of the educated pharmacists of the country. "Prof Maisch, so long and favorably known as a true working-man in our profession, has our earnest good wishes for a useful and brilliant career."

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

[Original Communication.]

STRUCTURE AND ADULTERATIONS OF POWDERED CAPSICUM.

BY CHANNING T. GAGE.

The capsicum used in this examination was that usually kept in drug stores; it is small, about 12 mm. in length and 4 mm. in diameter, of a reddish-yellow color. The fruit may be separated into two portions, the enclosing epidermis, and the mass of seeds in the centre, partially connected by dried, loose, and very brittle placenta. The epidermis consists of several layers (Plate 1). The upper or outer coat (*a*) is smooth on the outside, but on the inner surface is a raised network of beaded lines, having a series of cavities between. These are often in regular rows, but generally vary in size and shape. The peculiar marking of this coat, it will be seen, is entirely on the inner surface, for a thin shaving from the outside is colorless, and nearly transparent. See Plate 5, *a*. But a section, *b*, a little deeper, shows the markings and color of the inner surface. The bright yellowish-green color of this coat is between the raised lines on the inner surface, showing in the microscope merely as a color, with no definite structure. The second layer (Plate 1, *b*) forms the greater part of the epidermis, but is not as distinctive in appearance as the others. It consists of loose parenchyma, small and quite regular near the outside, larger and often very irregular farther in. The cells are filled with granular material, with oil globules here and there. Near the inner surface there are scattered vascular bundles of spiral vessels; this layer contains some mucilaginous material, as it swells a little when moistened. The next coating (*c*) is a thin, colorless membrane, easily broken, and only to be seen when a very thin section is obtained dry, and moistened on the slide. It is joined at short intervals to the next coat by a folded membrane, which seems also to continue around the arch of the inner coat, forming a sort of membranous sac. This contains a large amount of mucilaginous and some granular material; on moistening, it swells to more than double the thickness of the rest of the epidermis, the folds in the membrane stretching out as it expands. The last coat (*d*) consists of a series of small arches, made up of thick-walled tortuous cells, with the cell boundaries marked by a peculiar dotted line (Plate 3). The cells are somewhat beaded, the beads corresponding in adjacent cells; the coat is very brittle, the arches easily breaking into strips at their point of union, where there are thin-walled cells.

There seems to be no very definite structure to the dried placenta, consisting of a granular

material, and a hardly perceptible, large, loose parenchyma. The seed is roundish, flattened, and about 2 mm. in diameter, and less than 1 mm. thick. A cross section is seen in Plate 6, *b*, and an enlargement showing its structure in Plate 5. The thin outer coating connecting the tops of the projections in the next coat (*c*) I did not succeed in separating. The layer *c* seems to be made up of a series of tortuous ridges, with valleys between, like a continually winding mountain-chain. A tangential section, at *a*, Plate 5, has the appearance shown in *a*, Plate 6, very hard to represent, for there is a decided perspective to the hills and valleys. The fragments, as seen in the microscope, have an indefinite tortuous appearance, as seen in Plate 9, *b*. It has a bright greenish-yellow color, and the curves are often several times larger than represented.

The next seed coat (Plate 5, *d*) is very thin, and made up of quite regular fibrous parenchyma cells; it is generally seen in connection with the inner part of the seed (Plate 8, *b*), forming a network around it, and often entirely hid by it. The inner albuminous part of the seed is made up of smooth, colorless parenchyma, rather thick-walled, and filled with albuminous granular material (Plate 8, *a*). In the middle, the cells are much more irregular (Plate 9, *a*). Enclosed in the albumen we find the embryo curled up, as seen in Plate 6, *c*, and cut across in *b*.

These various forms which I have described all are plainly to be seen in sections of the fruit, but, in the commercial pulverized capsicum, they are often very different, by reason of the process of manufacture, yet, with care, all may be recognized; thus, in pure capsicum, the coats are of a bright, yellowish-green color, while that in the market has not only the coats, but often the gray albumen changed to a bright red color, probably with some vegetable coloring principle.

In order to get as fair a representation as possible, in looking for adulterations, I sent to various parts of the country, and obtained samples from the drug stores. These I carefully studied with a good microscope, taking several portions from the same specimen. For the purpose of comparison, I took some of the fruit and pulverized it myself, thus getting a sample of known purity as a standard. As to color, most of the samples were of a bright red, even those which were free from starches and other foreign material, while one or two of a normal color were very badly adulterated, so the purity cannot be judged of by the color.

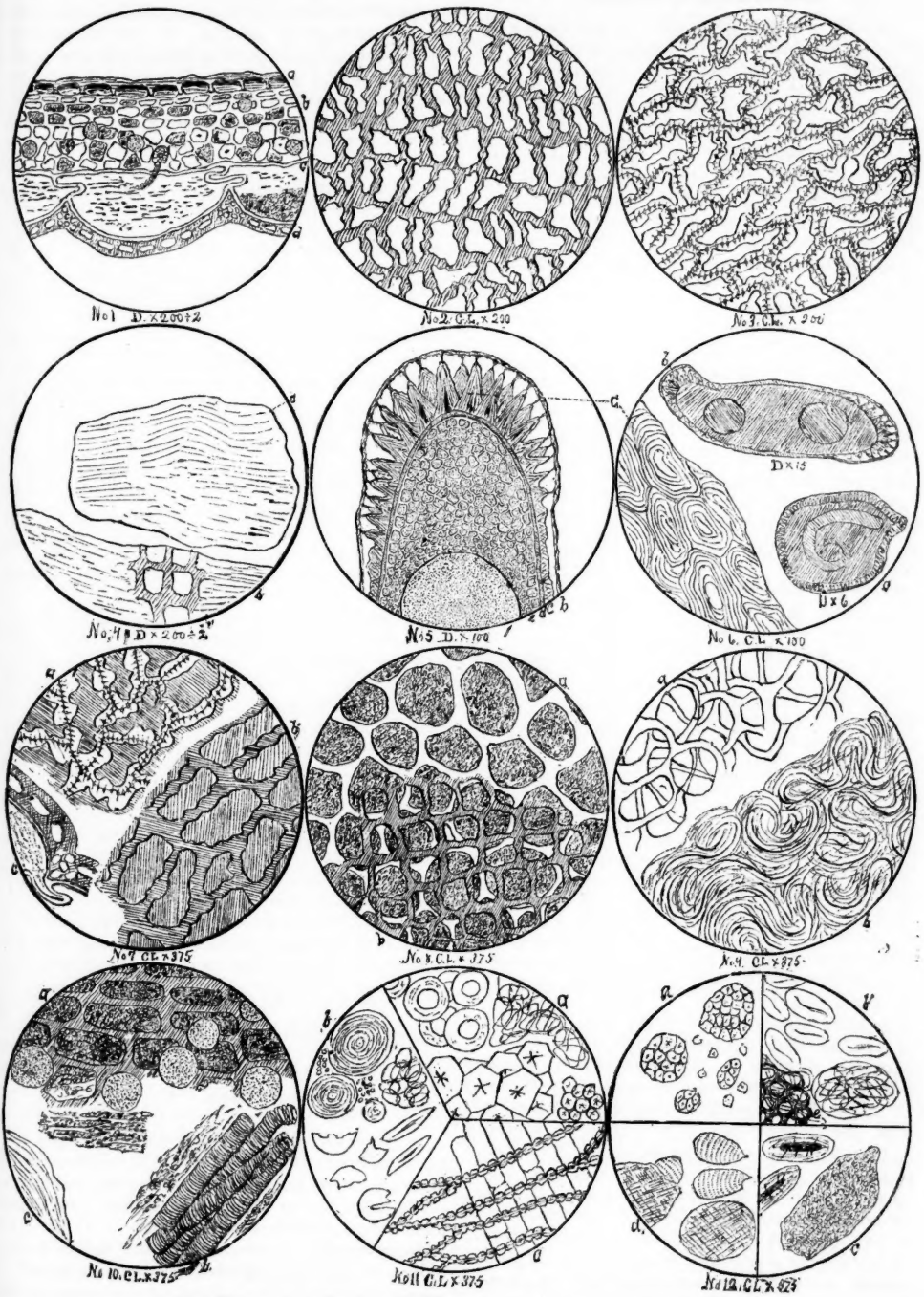
It is impossible to estimate the percentage of the impurities so easily seen in the field of the microscope; in most cases I should think there was from 30 to 60 per cent of the adulteration. The articles principally used are wheat, corn, oat and pea starches, but these are often roasted, or otherwise treated, which changes their appearance, and it was only by actual experiment on the genuine starches by boiling and roasting that I was able to identify the forms found in most samples; thus, corn starch, at the different stages of roasting, takes the various forms shown in Plate 11, *a e*, and all of these forms were found in commercial samples. These adulterations are, of course, harmless, but are simply used to increase the bulk of pepper, but reducing the strength to a perceptible degree.

I obtained the following results from the examination of seventeen specimens. Four were pure, and the remainder more or less mixed up with the various articles named:

	AT RETAIL FROM	WHOLESALE.	ADULTERATIONS FOUND.
1	Ionia, Mich	London, Eng ..	Pure.
2	Orange, Mass.....	Boston... ...	Pure.
3	Hanover, N. H... ...	Boston.....	Pure.
4	Fairview, Pa	Cleveland.....	Pure from starches; small quantity black pepper.
5	Adrian, Mich.....	Toledo, O.....	Corn starch, a large quantity.
6	Grand Rapids, Mich.	New York City	Corn starch, a considerable amount.
7	Manchester, Mich....	Toledo, O.....	Oat starch, a large quantity.
8	Lexington, Ky.....	Cincinnati, O ..	"Perfectly pure." Wheat flour and bran roasted. Corn starch roasted. Peas roasted, a large quantity.
9	Marshall, Mich.....	Detroit.....	"Pure." Corn starch, a large quantity.
10	Syracuse, N. Y.....	New York City	Corn starch, a large quantity; mustard, black pepper, and turmeric, each a small amount.
11	Jackson, Mich	New York City	Corn starch, wheat starch, each considerable. Bl'k pepper, a small amount.
12	Lansing, Mich.....	New York	Wheat flour and bran, a large quantity. Black pepper and turmeric, a small amount.
13	Helena, Montana Ty.	St. Paul, Minn.	Pea starch, large amount. Wheat starch, small amount.
14	Rochester, Ind.....	Chicago, Ill....	Corn starch, considerable amount.
15	Detroit, Mich.....	New York	Corn starch, roasted, a large quantity.
16	Sullivan, Ill.....	Chicago, Ill....	Corn starch, a large quantity.
17	St. Paul, Minn.....	.....	Corn, wheat, and pea starches, roasted, each a large amount, forming at least two-thirds of the sample.

UNIVERSITY OF MICHIGAN, June 23, 1879.

DESCRIPTION OF PLATES.—No. 1, Cross section of fruit-coats. No. 2, Outer coat. No. 3, Inner coat. No. 4, Thin tangential sections from outer coat. No. 5, Cross section of seed. No. 6, *a*, Section of seed at *a* No. 4; *b*, Cross section of entire seed; *c*, Section of seed parallel to its flat surfaces. No. 7, *a*, Portion of inner coat; *b*, Portion of outer coat; *c*, Section of inner coat. No. 8, *a*, Outer layer of cells of the albumen; *b*, Thin coat surrounding the albumen, seen also in *b* No. 5. No. 9, *a*, Portion of parenchyma containing the albumen; *b*, Fragment of outer seed coat. No. 10, *a*, Portion of second layer of epidermis, oil globules; *b*, Spiral vessels in epidermis; *c*, Portion of outer coat. No. 11, *a*, Corn starch; *b*, Wheat starch; *c*, Wheat bran. No. 12, *a*, Oat starch; *b*, Pea starch; *c*, Black Pepper starch and stone cells; *d*, Turmeric; *e*, Mustard husk. *D* signifies drawn diagrammatically. *C.L.*, drawn with Camera Lucida. The first six plates are made from sections of the fruit itself. The last six are from fragments in commercial samples, and are intended to show them as ordinarily seen in the field of the microscope.

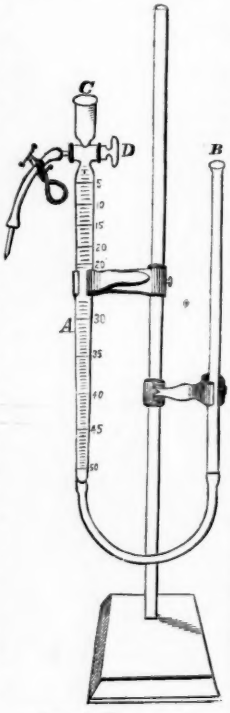

No 1 D. x 200÷2
No 2. C.L. x 200
No 3. C.L. x 200
No 4 D x 200÷2
No 5 D. x 100
D x 15
D x 6
No 6. C.L. x 100
No 7 C.L. x 375
No 8. C.L. x 375
No 9. C.L. x 375
No 10. C.L. x 375
No 11 C.L. x 375
No 12. C.L. x 375

STRUCTURE OF POWDERED CAPSICUM AND ITS ADULTERANTS.

Note on Lunge's Nitrometer.

CRUM'S original apparatus for estimating the nitric acid in nitrates, etc., depended upon the reducing action of mercury upon nitric acid, and consisted of a graduated tube filled with mercury; the solution of the nitrate and some strong sulphuric acid were then introduced, the tube shaken, and the nitric oxide produced was absorbed by a solution of ferrous sulphate. Among the most notable of the many modifications of Crum's apparatus was that of Frankland and Armstrong, specially adapted to the estimation of nitrates in drinking-water.

Lunge's nitrometer is likewise a modification of Crum's, and consists of a tube (*A*) holding fifty cubic centimetres graduated in fiftieths of a cubic centimetre, provided with a funnel (*C*) and a two-bore glass tap (*D*), to the end of which is fitted a waste-pipe. By means of this tap communication can be established between the waste-pipe and *A*, the waste-pipe and *C*, and between *A* and *C*. The tube *A* is connected with a plain tube, *B*, by means of a caoutchouc tube sufficiently strong to sustain the pressure of the mercury. Such a tube may be conveniently made by introducing a smaller rubber tube into ordinary gas-tubing containing a coil of wire. The method of working the apparatus is as follows:—The tube *B* is placed so that the open end at the top is a little higher than the top *D*. *D* is then turned so that communication is established between *A* and *C*. Mercury is then poured into *B* until it fills *A* and some has entered *C*. *D* is now turned so that *C* communicates with the waste-pipe. The excess of mercury is then run out of *C* by means of the waste-pipe. The tap *D* is turned 45 degrees, taking care that no air is allowed to enter, and that all communications through *D* are closed. *B* is now lowered in the clamp and the solution of the nitrate is introduced into *C*, the tap *D* is turned so that communication is established between *C* and *A*. When nearly all the solution of nitrate has entered *A*, the tap is again closed.



Lunge's Nitrometer.

Excess of strong sulphuric acid, *free from nitrous compounds*, is diluted with water, cooled, and then run in through *C* into *A*. If the substance under analysis be nitrous vitriol, then the pure sulphuric acid need not be diluted, and at least five cubic centimetres, or more, of sulphuric acid should be employed, otherwise sulphate of mercury is formed, which renders the tube dirty. After the pure sulphuric acid has been nearly all run in, *D* is turned so that *C* communicates with the waste-pipe. The small quantity of acid remaining in *C* and the waste-pipe is removed by means of a little water. *A* is now taken out of the clamp and agitated for a few minutes by repeatedly bringing it rather sharply from a nearly horizontal to a vertical position. *A* is then replaced in the clamp and allowed to stand for one hour. *B* is taken out of the clamp and placed by the side of *A*, so that the levels of the mercury in both tubes are equal. When the tubes are in this position the number of cubic centimetres of gas are read off. The height of liquid above the mercury in *A* is accurately measured, the number of millimetres found divided by seven, mercury being seven times heavier than sulphuric acid, and then deducted from the barometrical pressure. The temperature of the room at the time of reading is also noted.

An example will illustrate the mode of calculation and show the degree of accuracy obtainable with the nitrometer. A solution of potassium nitrate was made by dissolving the dried commercial salt in water, so that one cubic centimetre contained 0.0147 grams of potassium nitrate. Four cubic centimetres were taken for analysis. The volume of gas in the tube after standing an hour was 10.9 cubic centimetres; the temperature of the room, 20° C.; barometric pressure, 749.8 millimetres; column of liquid above the mercury, 116.2 millimetres; the volume 10.9 cubic centimetres corrected for temperature (temperature of room 20° C.), 10.15 cubic centimetres. Corrected for pressure (barometric pressure minus one-seventh of the height of the column of liquid over mercury, 749.8 mm. $-\frac{116.2}{7}$ mm.), 9.8 c.c. Or the same result may be obtained by the following formula:—

$$\frac{V\left(\frac{L}{7}-B\right)}{760\,(1+0.003665\,t)} = \text{volume at } 0^\circ \text{ C. } 760 \text{ mm.}$$

In the above formula V = volume of gas at t and B; B = barometric pressure in millimetres of mercury; t = temperature of room in degrees centigrade; L = column of liquid above the mercury expressed in millimetres.

Referring the corrected volume to the table below, which was published by Dr. Lunge,—*

* *Dingl. Polyt. Journ.*, ccxxxi., p. 522.

Equivalents of Gas in Tube measured at 0° *C.* 760 *mm.*

No. of Cubic Cents. 0° C. 760 mm.	N. mgrm.	NO mgrm.	N_2O_3 mgrm.	N_2O_5 mgrm.	HNO_3 mgrm.	KNO_3 mgrm.	$NaNO_3$ mgrm.
1 ...	0.627	1.343	1.701	2.417	2.820	4.521	3.805
2....	1.254	2.686	3.402	4.834	5.640	9.042	7.610
3 ..	1.881	4 029	5.103	7.251	8.460	13.563	11.415
4....	2.508	5.372	6.804	9.668	11.280	18.084	15.220
5....	3.135	6.715	8.505	12.085	14.100	22.605	19.025
6....	3.762	8.058	10.206	14.502	16.920	27.126	22.830
7....	4.389	9.401	11.907	16.919	19.740	31.647	26.635
8 ..	5.016	10.744	13.608	19.336	22.560	36.168	30.440
9....	5.643	12.087	15.309	21.753	25.380	40.689	34.245

9.8 c.c. at 0° C. and 760 mm. equal 0.0443 milligrams of potassium nitrate. The amount of solution employed contained 0.0456 gram of potassium nitrate.

Some experimental numbers are published by Dr. Lunge* almost exactly concordant with the amount of nitric acid present.

If it be desired to know the amount of nitrous and nitric acid in a mixture, the original solution is titrated with a solution of potassium permanganate which has previously been standardized with argentic nitrite. The total nitric oxide is then estimated by the nitrometer, and the amount represented by the nitrous acid found by the potassium permanganate subtracted.

The nitrometer may be used for the estimation of nitrates in potable waters. In this case the water is evaporated nearly to dryness, a few drops of sulphuric acid added, the solution warmed to expel carbonic anhydride, and then treated in the usual manner.

Dr. Lunge* has found that neither arsenious acid nor glucose interfere with the estimation. —WYNDHAM R. DUNSTUN in *Pharm. Jour.*

The Synthesis of Atropine.

PROF. A. LADENBURG, of the University of Kiel, makes the important announcement that he has succeeded in accomplishing the first step towards the artificial production of atropine, by recombining the primary products of the decomposition of the natural alkaloid.

According to Kraut and Lossen's investigations, atropine is split by the action of baryta or hydrochloric acid into *tropin* and *tropic acid*, one molecule of water being added by the intervention of the just-mentioned reagents :

$$C_{17}H_{23}NO_3 + H_2O = C_8H_{15}NO + C_9H_{10}O_3.$$
Atropine + water = tropine + tropic acid.

Perhaps the most important step towards the formation of artificial atropine is the recombination of these two products of decomposition. This was accomplished by Prof. Ladenburg, by treating an equivalent mixture of tropine (previously ascertained to be absolutely free from atropine, being without effect on the eye, and carefully distilled) and tropic acid, with excess of dilute hydrochloric acid on the water-bath. The clear liquid gradually separates an oil, which is filtered off, when the liquid cools. The clear solution is freed from most of the free hydrochloric acid by the addition of potassium carbonate, whereby some more of this oil is separated. The filtered hydrochloric solution is then treated with potassium carbonate in excess, when an oily substance separates, which rapidly solidifies into small colorless needles. The crystals are separated by filtration, pressed between blotting paper, dissolved, according to the method prescribed by Mein (the discoverer of atropine), in a little alcohol, and the solution poured into five times its bulk of water. The atropine separates as an oily substance, which crystallizes after a few hours in shining needles, characteristic of the alkaloid.

Prof. Ladenburg has found no difference, either physically, chemically, or physiologically, between the natural and artificial atropine.* Precise investigations of the relative physiological properties of the two substances are being made by Prof. C. Völkers, of Kiel.

Prof. Ladenburg has now proposed to himself the solution of another question, which he considers less difficult, and towards which he already has made some progress, namely the artificial preparation of *tropine* and *tropic acid*. Among other interesting facts which he has so far discovered, is this that *tropine* is converted, under the action of strong hydrochloric acid at higher temperatures, and under the observance of certain precautions, into a new base, of an oily consistence, boiling between 162 and 163° C., which was found to have the composition $C_8H_{13}N$. The author has called it *tropidine*. It has a stupefying odor, *very similar to that of coniine*, and appears, like the latter, to be more soluble in *cold* than in hot water. It was found to be a tertiary base, and to be without effect on the pupil.

The author also points out the curious relationship which appears to exist, and may perhaps in reality be found, between

Collidine,†	Tropidine, and	Coniine.
$C_8H_{11}N$,	$C_8H_{13}N$,	$C_8H_{15}N$.

—From *Ber. d. Deutsch. Chem. Ges.*, 1879, 941.

* *Ber. der Deutsch. Chem. Gesellsch.*, 1878, p. 434.

* One drop of the aqueous solution of the sulphate of the artificial alkaloid dilated the pupil within 15 min., and the dilatation lasted for many hours.

† Collidine is a product of the destructive distillation of organic nitrogenized substances, particularly in Dippel's animal oil (bone-oil); also, in coal-tar; may be prepared synthetically. It is isomeric with xylidine or amidoxylol, which is met with in the high-boiling fractions of crude aniline oil.

The same number of the journal quoted above also contains several papers by Prof. A. W. Hofmann, in which, independently of Prof. Ladenburg, the probable constitution of several bodies is discussed, which will have to serve as a basis for the building up of artificial atropine.

Notes on Economic Botany of the Western United States.*

BY J. T. ROTHROCK, LATE A. A. SURGEON, U. S. A.

Berberis aquifolium Pursh. "Oregon Grape."—According to Dr. Engelmann, this is also called in Colorado "mountain grape," and the juice when fermented makes, on the addition of sugar, a palatable and wholesome wine.

Caulanthus crassicaulis Watson. "Wild Cabbage."—Sometimes used as food when a better substitute cannot be found.

Fremontia Californica Torr. "California Slippery Elm."—Though totally unlike eastern slippery elm in its botanical characteristics, the inner bark develops large quantities of mucilage when wet; in this respect sharing the peculiar properties of some other members of the order. Used in California to make poultices, etc.

Larrea Mexicana Moricand. "Creosote-bush."—Common from Western Texas to Kern County, California, and southward into Mexico. Dr. Loew's examination proves that "the reddish-brown exudate on the branches" will yield a red coloring matter, showing all the reactions of cochineal.

The alcoholic extract of the leaves on evaporation yields a greenish-brown residue of a specific and somewhat disagreeable odor, more strongly perceptible on boiling the extract with water. This residue is only to a small extent soluble in water, and the solution has an acid reaction. It yields a light-yellow precipitate with acetate of lead. The part of the alcoholic extract that is soluble in water is easily soluble in alkalies. It also dissolves in nitric acid at a moderate heat, whereby oxidation takes place. On addition of water, a yellow, brittle mass is precipitated." The Mexicans are said to use an infusion of the leaves for bathing in, in rheumatic affections.†

Rhus diversiloba T. & G. "Poison Oak; Yeara."—Much like the poison oak of the Eastern States. Common on the Pacific coast. For remedy see *Grindelia robusta.*

Prosopis juliflora DC. "Mesquit," "Algaroba" of the Mexicans.—Grows from Southeastern California east to Texas, where it attains the tree size, and forms dense thickets, extends south into South America. The gum exuding from this tree closely resembles gum-arabic in appearance and in its properties, and may some day become an important article in trade. The pods while yet in pulpy condition are a valuable forage, eagerly eaten by animals, and on which they actually thrive while making hard marches. The beans contain thirty per cent of grape-sugar. Dr. Loew asserts that the Comanche Indians prepare an alcoholic beverage from them. As a fuel it ranks with the hickory of the Eastern States, and the charcoal made from it is said by Dr. Loew to be of the best quality for metallurgical and smelting purposes. Besides this species, there is another, hardly less useful, *i. e.*, *P. pubescens* Benth., the screw-bean, the pods of which are ground into flour by the Indians. The wood of both species is of great value in some of the arts.

*Oxytropis Lamberti** Pursh, in Colorado; and *Astragalus Hornii* Gray, and *Astragalus lentiginosus* Dougl. var. *Fremontii* Watson, in California, are known as loco-plants. The term *loco*, simply meaning "foolish," is applied because of the peculiar dementia induced in the animals that are in the habit of eating the plant. In Arizona, I was told that *Hosackia Purshiana* Benth. produces effects similar to the above plants, but I have no certain knowledge concerning it.

Whether the animals (horses chiefly) begin to eat the plant from necessity (which is not likely) or from choice I am unable to say. Certain it is, however, that once commenced, they continue it, passing through temporary intoxication to a complete nervous and muscular wreck in the later stages, when it has developed into a fully marked disease, which terminates in death from starvation, or inability to digest a more nourishing food. The animal toward the last becomes stupid or wild or even vicious, or again acting as though attacked with "blind staggers."

Dr. Horatio C. Wood has recently brought to light (*Phila. Med. Times*, Vol. VII., p. 510) a new alkoloid in *Sophora speciosa* Benth. This he names *sophoria.* In its action it resembles calabar bean. This alkaloid is a spinal sedative, producing death through the respiration. One-twentieth of a grain of an impure specimen of this alkaloid produced a profound sleep, lasting many hours, in a half-grown cat. Mr. Bellinger, of Texas, states that the Indians near San Antonio use the bean as an intoxicant, half a bean producing "delirious exhilaration, followed by a sleep which lasts two or three days," and it is asserted that a whole bean would kill a man.

Mr. Lemmon has noted *Astragalus Mortoni* Nutt., "as a deadly sheep poison" in California†.

This order (*Leguminosæ*) was, until lately, regarded as on the whole rather innocuous, but

* From the Report on the Botanical Collections made in Nevada, Utah, California, Colorado, New Mexico, and Arizona, from 1871 to 1875, in connection with the U. S. Geographical Surveys, west of the one hundredth meridian in charge of Lieut. Geo. M. Wheeler, Corps of Engineers, U. S. Army. From *Report upon U. S. Geographical Surveys;* Vol. VI., Botany. 4to with 31 plates. Washington, 1878.

† See *Wheeler's Reports*, Vol. III., p. 608-9.

* The alcoholic extract of this plant failed, when hypodermically injected by Dr. H. C. Wood, to produce symptoms of poisoning in the lower animals. He hence concludes it is a mistake to regard it as one of the "loco" plants.

† See *Brewer & Watson, Bot. of California*, Vol. I., p. 165.

recent discoveries have brought to light quite a number of plants of bad repute.

Eucalyptus globulus Labill. "Australian Blue Gum."—Now planted by thousands in Southern California. This tree is of a very rapid growth, and makes withal a solid, close-grained, enduring timber. Mr. Cooper, of Santa Barbara, estimates the gain in growing this to be greater than that derived from the cereals. As to its value from a medicinal standpoint, I am free to say it has in every instance disappointed me in its anti-periodic effects. I do not regard it (though I have used it heroically) as in any sense the peer of the preparations derived from cinchona. It is, however, not improbable that the enormous evaporation from the surfaces of the leaves and young shoots may be a means of improving the sanitary condition of a moist, boggy, ague-cursed area, when the trees are planted in masses, but the idea that any mere cordon of trees around a home would protect it appears improbable, not to say preposterous. However, I am bound to say we are yet without sufficient data on which to base an absolute conclusion. In such regions as the Sanoita Valley, Cienega, or San Pedro, in Southern Arizona, it would doubtlessly flourish, and a few years hence be of immense value as a timber tree. The Southern Rio Grande Valley offers another suitable spot for its introduction. While these species will not endure cold weather, it is to be remembered that there are others of the genus that are hardier and almost as valuable as timber. These would probably be well worth a trial in Arizona and New Mexico.

Mentzelia albicaulis Dougl.—The Indians in Southeastern California pound up the seeds of this, making thus one of their forms of pinoli (see later on, under *Salvia Columbariæ*). Sometimes also used by them in a kind of cake.

Cucurbita perennis Gray. "Chili Cojote," and "Calabazilla," in Southern California.—Brewer & Watson assert, in *Fl. Cal.*, p. 239, "that the pulp of the green fruit is used with soap to remove stains from clothing, and that the macerated root is used as a remedy for piles, and the seeds are eaten by the Indians."

Cymopterus Fendleri, Gray. "Chimaja" of New Mexico.—This plant emits, when in decoction, a peculiarly strong and pleasant odor, not unlike *C. anisatus*, which it closely resembles. The residents in and about Santa Fé are in the habit of using this as the chief ingredient, after whiskey, to form a warming stomachic "bitters," which is immensely popular, as anything is likely to be which improves in any way the whiskey of the region. A less objectionable use is made of it by using it as a stuffing in a leg of roast mutton, the whole mass of which it permeates with its pleasant flavor. It is not unlikely that ere long this plant will be made the basis of another quack constitutional invigorator. There is probably no doubt of its being a good carminative, and it may also prove to a certain extent tonic.

Osha.—This root, so well known in and around Santa Fé, is derived from an unknown plant, probably a *Peucedanum*. Better specimens are desirable, as it is altogether probable the plant is an old, well-known species. It may have remedial powers that will stand investigation.

Eupatorium Berlandieri DC.—A specimen of this was handed me at the Chiricahua Agency in Southern Arizona, and the statement made that the Apache Indians there were in the habit of using it as a substitute for tobacco. At first I was disposed to accept the statement *cum grano salis*, but have since discovered that other species are elsewhere used in a like manner. On trial, I find the smoke devoid of any marked flavor, but rather acrid when passed through the nostrils. It also appears to have some more marked property in a very slight degree, as indicated by a gentle nervous tremor induced in smoking. The dry leaves, when rubbed in the hand, emit a faint, rather resinous odor. There is no doubt but that it would be quite as pleasant and satisfactory as much of the drugged, cheap tobacco now on the market.

Grindelia robusta Nutt, or "Gum Plant" of California.—This plant has recently come into notice as a remedy in poisoning from *Rhus diversiloba* (Poison Oak of California). So far as I know, it has not been tested on our Eastern oak,* which is another species, and for which the *Fluid Extract of Serpentaria*, as advised by Dr. Henry Hartshorne, acts almost as a specific when applied locally. The resinous exudation on the leaves of the *Grindelia* is applied in California, or it has been used in the form of a tincture. Concerning the wide range of usefulness anticipated in medicine for *Grindelia*, I am in the highest degree skeptical.

Bigelovia veneta Gray. "Damiana" in Northern Mexico.—The plant is found just outside our borders, and may reach within our domains. I introduce it here because it is so closely related to *B. Menziesii*, which extends abundantly from San Diego to Arizona, and as far north as Utah, so as to be by some regarded as identical. Concerning Damiana, or, as it is oftener called, *Yerba anti-rheumatica*, we have of late heard much in medical journals as an aphrodisiac. There are a number of other claimants for the name Damiana. Of this one, I am free to confess I consider it utterly worthless as a remedial agent. The resinous exudation on it somewhat resembles that found on *Grindelia robusta*, and was probably the means of attracting attention to it.

Pectis angustifolia Torr. and *P. papposa* Gray appear to have been generally noticed

* It has been tried in the Eastern States with varying success.

because of their *peculiar odor of lemons*. Indeed, Dr. Loew suggests that in the former this might be turned to commercial account.

Artemisia.—Several Western species have been reputed as of use in ague and mountain fever by the prospectors of the West. They are used in decoction. *I am not prepared to vouch for their efficacy, however.* Some species are said to "owe decidedly stimulating properties to their aroma and bitterness."* The current ideas concerning some of our Eastern species would go for something in confirming the estimate placed on the Western ones.

Asclepias leucophylla Engelm., var. *obtusa* Gray. "Milkweed."—Has about Fort Tejon, California, the reputation of "locoing" the sheep. How well merited this is I am unable to say.

Eriodictyon.—In California I believe the name "Yerba Santa" is used for both *E. tomentosum* and *glutinosum* of Bentham. An infusion of the leaves in whiskey or other alcoholic liquor is reckoned almost a panacea by the native population. Precise clinical trial is yet needed to determine its true value.

Eritrichium fulvum A. DC.—I have received from my friend, Mr. Wm. L. Kennedy, of Fort Tejon, California, abundant specimens of this plant, collected in white paper, which it had stained completely with a *bright orange-red* color. Mr. Kennedy accompanied the specimens with the remark that "the fresh root and leaves are used by the squaws to paint their faces, and that the color is not inferior to the finest rouge." From the abundance of the juice, as manifested by the stained paper in which I received the plants, I infer that the plant might be turned to some commercial account. The coloring matter is not confined to this species.

Salvia Columbariæ Benth. is the "Chia" of Southern and Central California. I abstract the following brief account I have given of it from the *Botanical Bulletin:*

During the summer of 1875 my attention was called, while in Southern California, to a mealy preparation in popular use among the Indians, Mexicans, and prospectors. On inquiry I found it was called 'chia.' Further examination proved that it was furnished by the seeds of *Salvia Columbariæ* Benth. The seeds are collected, roasted, and ground, in the native way, between two stones. This puts it in the condition in which I first saw it. It is used as a food by mixing it with water and enough sugar to suit the taste. It soon develops into a copious mucilaginous mass, several times the original bulk. The taste is somewhat suggestive of linseed-meal. One soon acquires a fondness for it, and eats it rather in the way of a luxury than with any reference to the fact that it is exceedingly nutritious besides. It is in great demand among the knowing ones who have a desert to cross, or who expect to encounter a scarcity of water, and what there is of bad quality. By preparing it so thin that it can be used as a drink, it seems to assuage thirst, to improve the taste of the water, and, in addition, to lessen the quantity of water taken, which in hot countries is often so excessive as to produce serious illness.

As a remedy it is invaluable, from its demulcent properties, in cases of gastro-intestinal disorders. It also holds a place among domestic remedies, for the same purpose that flaxseed occasionally does with us, *i. e.*, a grain of the seed is placed in the eye (where it gives no pain) to form a mucilage by means of which a foreign body may be removed from the organ. I have found it of great service as a poultice. As a matter of archæological interest, it may be noted that quantities of this seed were found buried in graves several hundred years old. This proves that the use of the seed reaches back into the remote past. Indeed I find several allusions to the name 'Chia' in the second volume of Bancroft's great work on the *Native Races of the Pacific States*, pp. 232, 280, 347, 360. 'Chianpinoli' appears to have been made by the so-called Aztec races from corn which was roasted and ground as the Chia was. Chia was among the Nahua races of Ancient Mexico as regularly cultivated as corn, and often used in connection with it. Indeed, it was one of the many kinds of meal in constant use, and which appear to have gone then, as now, under the generic name of pinoli."

Abronia fragrans Nutt.—The *delicious perfume* of the flowers of this plant suggests the inquiry as to whether it could not be utilized as a toilet adjunct. Specimen number 127 of the New Mexican collection, when taken at Agua Azule, was fairly loading the air with its *matchless fragrance.*

Anemiopsis Californica Hook. "Yerba de Mansa."—This plant, if we may at all credit popular report, is well worthy of further investigation as a remedial agent. Unfortunately, I have mislaid my notes, and can say nothing more definite now than that it is regarded as a diuretic, and is largely used in baths for rheumatic affections. It is rather unsafe to venture an opinion on its mere appearance; but if I were to do so, I should say it would probably drop into that somewhat vague class of remedies known to physicians as alteratives.

Yucca Baccata Torr., along with other species of the same genus, is, like Agave, also known to the Mexicans as *Amole*, and the root is used by them in washing. Dr. Loew has recently furnished an analysis of the root (Vol. III., p. 609, *Wheeler's Reports*), and finds the froth produced on agitating the pounded root in water is due to *saponin.* Of course, its marked detergent properties depend on this. The leaves of this also furnish a coarse fibre.

*See *Le Maout and Decaisne*, English edition, p. 505.

Euphorbia.—The various prostrate species of this genus have, in the Southwest, a popular reputation as a remedy in bite of rattlesnakes, tarantulas, etc.; and, to meet the demand for it, a tincture is kept on hand in the shops. In absence of this (on the authority of Dr. George Thurber), the fresh leaves bruised, or the dry ones steeped in wine, are applied to the wound. These plants are there known as *Yerba de la Golondrina.* While not wishing to cast discredit upon the remedy used in this way (and that, too, after the venom has usually been taken into the general circulation), I can only say it is hard to understand how it could be of service.

Populus tremuloides Michx. "American Aspen."—Dr. Loew reports the bark of this tree to be used by the Indians in intermittent fever. It has long been more or less of a domestic remedy, and, indeed, of a certain class of practitioners, for this disease. It is not a little remarkable, however, that it should also be used by the Indians, and we can only account for the fact that it does possess some remedial power in this direction, which a "hit or miss" empiricism has led them to discover. Dr. Loew's analysis of the bark yields salicin and populin. The former was long ago in common use in intermittents. It is, therefore, probably slightly antiperiodic as well as tonic in its action.

Ephedra antisyphilitica C. A. Meyer. "Canutillo; Tepopote; Whorehouse Tea."—The names, scientific and popular, might be regarded as sufficiently indicative of the alleged properties of the plant. The stems of the plant are largely used in decoction as a remedy in gonorrhœa. Precise clinical results are wanting to determine its real value. However, by common consent among the populace, and so far as I can learn from medical men of the region, it is of real service. Its close botanical relationship to the balsam-producing *Coniferæ* would appear to suggest that this, too, must contain a like product. This, however, is not confirmed by the careful analysis of Dr. Loew (Vol. III., *Wheeler's Reports* pp. 611 and 612).

The above-ground portion is there shown to yield an aqueous extract of "acid reaction, and an astringent taste, resembling that of tannin." No body resembling an organic base or alkaloid was found.

The filtrate of the aqueous solution proved the presence of tannic and tartaric acid. Pectin was also shown to be in filtrate by the "jelly-like precipitate produced by the addition of alcohol." The tannin belongs to the glucoside group, furnishing sugar on treatment with acid and various other compounds, and, upon dry distillation, pyrogallic and carbonic acids. This tannin splits up into sugar "*and a red amorphous powder.*" The powder Dr. Loew considers quite a distinct body, which he names *ephedrin*, and to this he attributes (and probably correctly) its remedial properties. So concurrent is the testimony in favor of this plant that it is well worthy of a fair trial in hospital practice.

Agave Palmeri, and *A. Parryi* Engelm. "Mescal."—The subterranean trunk of most (or all) the Agaves contains, like that of the Yuccas and many other plants of these families, a great deal of mucilage, which, when mixed with water, has detergent properties to a considerable degree. These "roots" and the whole plants thus used are known to the Mexicans by the name of Amole." (*Engelmann* *). Mescal whiskey is prepared by distillation from the juice which has been collected in the cavity caused by removal of the just starting flower-stem and the inner leaves. The quantity yielded is almost fabulous. This whiskey contains a large percentage of alcohol, and it is said that it is impossible to adulterate it so that the adulteration cannot at once be detected in the taste. Hence it is hardly surprising that those who are "advised to take stimulants" take so kindly to "Mescal." Fresh from the still, it is even hotter than corn whiskey equally new.

The Various Therapeutic Uses of Calcium Phosphate.

WHILE phosphate of lime in an insoluble state is not absorbed in its passage through the alimentary tract, when dissolved in lactic acid, under the form of a lacto-phosphate, it stimulates nutrition in both adults and infants. In the latter the bodily weight regularly and progressively increases. In the case of the bones, lacto-phosphate of lime increases their hardness and favors consolidation in cases of fracture. In rickets, M. Dusart found in every case, in which the diet, though sufficient in quantity, was unsuited to the digestive organs, the addition of lacto-phosphate of lime caused rapid improvement. The observations of Dr. Paquet in Parisian hospitals in cases of wounds and fractures confirms its usefulness where there are deep-seated disturbances of nutrition; among the results following the use of the remedy being almost uniformly a shortening of the period required for consolidation.

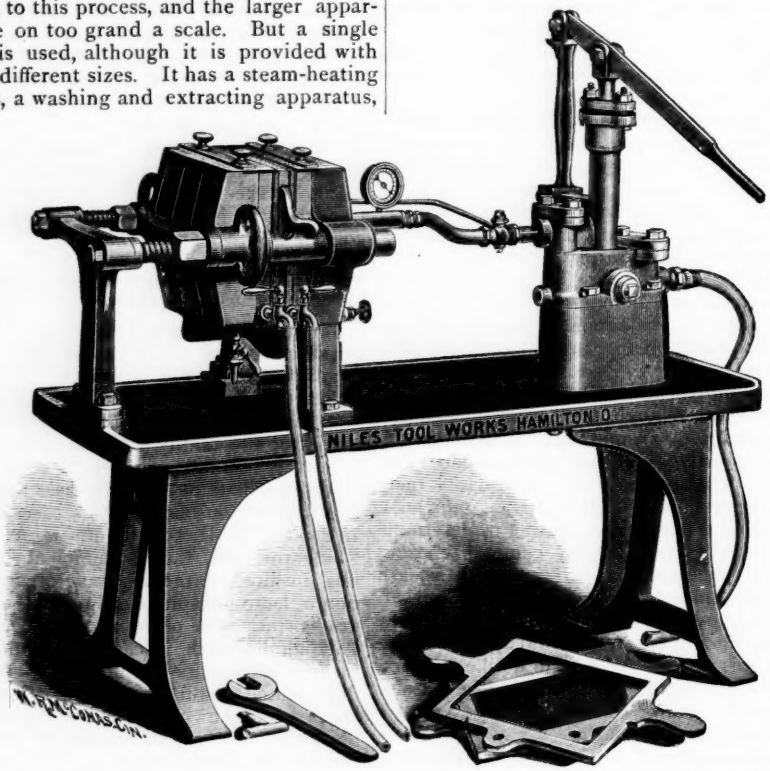
Among pregnant women, easy gestation, constant appetite, a well-developed and vigorous child, a rich and abundant milk supply are the results as observed by M. Dusart accompanying the employment of calcium phosphate in this form.

Lehman's experiments on young animals with food deficient in phosphates show sufficiently well the injury which may be inflicted thereby upon the development of all their tissues, but especially the osseous; while the superior value of lime phosphates as compared with potassium phosphates was likewise established.

* In his paper on Agave in *Transact. of Acad. of St. Louis*, 3,308, etc. See also *Botany* of Clarence King's *Reports*, p. 497.

Filter-Presses for Manufacturers and Laboratories.

On page 248 of New Remedies for 1877, we described a variety of filter-presses made in Germany, which were especially adapted for the use of manufacturers and in laboratories where considerable quantities of materials require to be handled with the least expenditure of time. Since then the Niles Tool Works, of Hamilton, Ohio, have undertaken the manufacture of these presses, and we present herewith an illustration of one which is adapted for use when a comparatively small amount of fluid requires to be subjected to this process, and the larger apparatuses are on too grand a scale. But a single chamber is used, although it is provided with others of different sizes. It has a steam-heating apparatus, a washing and extracting apparatus,



facilities for carrying on its operation without exposing the liquids to air, pump, pressure-gauge, etc., etc., and weighs about 600 pounds. At present, presses of this character are used largely in the manufacture of colors, glycerin, stearin, paraffin, yeast, dextrine-paper, sugar, potter's clay, anilin and alizarin, soda carbonates, cream of tartar, graphite, glue, juices, wine, oil, starch, white lead, etc., and there are many pharmaceutical operations conducted on a comparatively large scale in which they may be useful.

Borate of Quinoidine.

Mr. C. Pavesi directs this salt to be prepared as follows: Treat commercial quinoidine with water acidulated with sulphuric acid, raise the mixture to boiling, keep it at that temperature for a few minutes, then filter, and add a solution of sodium carbonate as long as a precipitate falls. The latter is carefully washed and dried on blotting paper at a gentle heat. Two (2) parts of this purified quinoidine, and four (4) parts of boracic acid are then placed into a porcelain capsule, with sufficient water to keep the whole in solution; when boiling or rather when somewhat below the boiling point, animal charcoal is added, and the whole boiled for a few minutes, after which it is filtered. The filtrate, which is of a dark-yellow color, is evaporated until a pellicle forms, and then set aside, when it will deposit, within forty-eight hours, a crystalline mass which is collected on a filter and dried with a gentle heat. The mother-water, on further concentration, yields, on slow cooling, handsome tabular transparent, dark-yellow crystals of the same salt (borate of quinoidine).

Borate of quinoidine is tolerably soluble in water, quite bitter, and has antiseptic properties, according to the author; milk, meat, urine, sugar, etc., do not undergo fermentation in presence of the salt, nor do bitter almonds generate hydrocyanic acid and essential oil of bitter almonds. It also prevents the germination of cereals. It has been used with success in intermittent fever. —*Bol. del Colegio de Farm. de Barcelona*, 1879, 187.

[Original Communication.]

ALUMINII SULPHAS.*

BY J. U. LLOYD.

My experience with the officinal process for preparing this article is that, while in the main feasible, it may be in detail very much improved. I will name the objectionable features as presented to myself.

The alum and the carbonate of sodium are each directed to be dissolved separately in six fluid ounces of boiling water. Unless the portion in which the alum is dissolving is maintained at this temperature, it is very difficult to dissolve the alum entirely, as, while alum is soluble in boiling water to a large extent, it dissolves with decreasing temperature to a very much less degree, thus we find that it is necessary to *maintain the temperature.*

Let us now suppose that we have our alum in ordinary crystalline form (and the formula of our Pharmacopœia does not direct otherwise) and add our crystals (4 troy ounces) to six fluid ounces of boiling water, and with constant stirring endeavor to dissolve them, we will find that the temperature of the liquid will soon fall so low as to render it impossible. Let us now bring the liquid to the boiling point, and, shortly evaporation will *decrease* the water to such an extent as to render the solution of the alum an impossibility. Thus we find that *actually* we may follow the Pharmacopœia, and fail to even dissolve 4 troy ounces of alum in 6 fluid ounces of water, the first step. (I will admit that an experienced pharmacist will powder the alum, and supply the water of evaporation, but our formula should have *directed* this to be done.)

Admit that we have dissolved the two salts, and are prepared to mix them. As the alum solution is poured into the solution of carbonate of sodium, effervescence ensues, accompanied by thickening of the mixture. At length the proportion of aluminium hydrate is such as to render the mixture mushy. When cold, it is of a jelly-like consistence and will scarcely be permeated by the water with which we are directed to wash it. Thus the precipitate will remain in a mass within the filter, while the water passes through the paper alone, and perhaps also through fissures of the magma, and the filtrate may almost cease to be affected by the solution of chloride of barium, while the precipitate has scarcely been washed at all.

The directions are to wash until "the washings are no longer affected by chloride of barium." With proper attention, *perhaps* this may be accomplished, and the magma be freed from sulphate of sodium; but all that have attempted to wash any considerable amounts of such precipitates until this point is reached, have an idea of the length of time required, if, indeed, it is practicable. Such as have had experience in washing precipitates are acquainted with the fact that, if by neglect (or ignorance, and our Pharmacopœia does not note the point) the overlaying liquid passes through and is not replenished, fissures form in the magma, and thus channels are made which the water afterward seeks, instead of permeating the material, from which reason our chloride of barium may cease to produce a precipitate, while the sulphates within the precipitate are in large amount. Thus I find it better to wash precipitates by decantation as a general rule.

I will call attention to the foregoing remarks, and make the following suggestion, which is simply a change of wording of the present formula:

"Dissolve the salts separately, each in four pints of hot water; pour the solution of the alum, with constant stirring, gradually into that of the carbonate of sodium in a capacious porcelain vessel, and bring the mixture to a full boil. Remove the heat, and when cool pour the contents of the vessel upon a muslin strainer, previously moistened with water. When the liquid ceases to pass, return the precipitate to the dish and thoroughly incorporate with eight pints of distilled water, and again drain the precipitate upon the strainer. Repeat the operation, and when the precipitate has drained, transfer to the porcelain dish and dissolve, with the aid of a gentle heat, in the sulphuric acid" (continue as in U. S. P., after the word acid).

I think the foregoing will prove to be more practical than the directions of the present process, but of course I expect the formula and remarks to be critically examined.

The resulting salt will always contain a trace of soda, but not in objectionable amount. The hydrate of aluminium will precipitate in a beautiful, smooth, semi-transparent form, free from hard lumps, as is the case when so small an amount of water is used as the present process directs for dissolving the alum and carbonate of sodium. The liquid from hydrate of aluminium quickly passes through the strainer, and but a short time is required to make the three washings. The hydrate will dissolve in the sulphuric acid, as it contains enough water mechanically held for the solution of the sul-

* The formula of the U. S. Pharm., which Mr. Lloyd proposes to improve, reads thus:

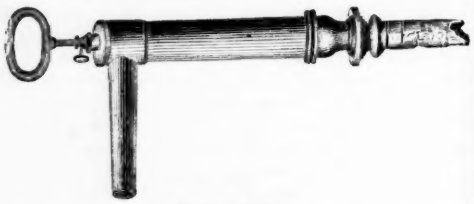
Aluminii Sulphas. *Sulphate of Aluminium.*

Take of alum, carbonate of sodium, each four troy oz., sulphuric acid, one troy oz. and 150 grains, water q.s.—Dissolve the salts separately, each in six fl. oz. of boiling water; pour the solution of the alum gradually into that of the carbonate of sodium, and digest with a gentle heat, until the evolution of the carbonic acid ceases. Collect upon a filter the precipitate formed, and wash it with water until the washings are no longer affected by chloride of barium. Next, with the aid of heat, dissolve the precipitate in the sulphuric acid previously diluted with half a pint of water, and having filtered the solution, evaporate it until a pellicle begins to form. Then remove it to a water-bath and continue the evaporation, with constant stirring, until a dry salt remains. Lastly, preserve this in a well-stopped bottle.

phate of aluminium, but, to favor subsequent filtration, it is best to previously dilute the acid.

I suggest that the sulphuric acid be reduced to one (1) troy ounce, as it is necessary, in order to obtain a *dry* salt, that there be no excess of acid (H_2SO_4), and occasionally small amounts of the hydrate may be lost during the manipulation.*

CINCINNATI, O.



Siphon Pump.

ONE of the contrivances devised for starting siphons, particularly such as are composed of lengthy conduits of pipes, through cellars, etc., is here figured and described. It is a simple pump, forming a part of the siphon tube, and being attached to the series of pipes near the exit. Whenever the siphon connections have been made air-tight, a few quick strokes of the pump will start the liquid to flow. The pump may be made of any material to suit the nature of the liquid to be transmitted. It has been patented by G. A. Herrmann of Schweinfurt, Germany.—*Industrieblätter*, No. 21.

The Preparation of Cottonseed-Oil.

THE seeds of the cotton-fruit, after being separated from the cotton in the so-called "gin," are packed in sacks and in this shape sold to manufacturers of the oil. The latter empty the sacks on floors, where the seeds are frequently turned over with shovels to prevent their heating. The first process which the seeds then undergo is a preliminary cleaning in drums lined with a fine metallic net, and containing a strong magnet to which any iron nails will adhere which are frequently present. From the drums the seeds drop into a gutter leading to a machine which removes the still adhering remnants of cotton. The clean seeds are then transferred to the shellers, in which the exterior shell is removed from the kernel; the mixed shells and kernels are separated in a winnowing machine by a strong blast of air. Being thus cleaned, shelled, and separated, the kernels are ground to flour between two smooth cylinders, 29.5 inches long and 8 inches in diameter, revolving 40 or 50 times a minute, and capable of grinding about 264 kilograms of kernels per day.

Cold pressure of the kernels produces a very good salad-oil; but in this country warm pressing is generally preferred. The ground seeds are first heated in steam cylinders for 15 to 20 minutes to 96–102° C. (205–216° F.); the mass is then transferred to strong woolen bags, which are enclosed by coarse bags made of horse-hair, and these are subjected to a hydraulic pressure of at least 6 atmospheres (90 lbs. to 1 inch), at which they are maintained for 20 minutes. The quantity enclosed in each bag is such that the resulting press-cake does not exceed a thickness of 15 millimetres (nearly $\frac{5}{8}$ inch), nor a weight of $3\frac{1}{2}$ to 4 kilograms. 1,000 parts of American cottonseed yield 489.5 parts of shells, 10.5 of cotton, 365 of press-cake, and 135 of oil.

Crude cottonseed-oil has a dirty-yellow to reddish color, a spec. grav. of 0.930 at 16° C. (60.8° F.) and congeals at 2–3° C. (35.6–37.4° F.); the refined oil is straw-yellow, and has a spec. grav. of 0.926 at 16° C.—From *Dingl. Polyt. J.*, 232, p. 189.

The Silver Colic of Bank Clerks.

DR. MANOUVRIERS has published, in the *Bulletin Médical du Nord*, some novel observations on a disorder to which bankers' clerks are subject under certain circumstances. It has been repeatedly noticed for years that, after handling for some days in succession large quantities of silver five-franc pieces, they suffer from disturbances of the respiratory and digestive organs. These troubles have been ascribed to a dark-greenish metallic dust, which is raised by taking the coins from the bags wherein they are usually kept, weighing them, and putting them back. This dust impregnates the atmosphere of the room, blackens the skin, and penetrates into the respiratory and digestive tracts together with the air and saliva. As a rule, this process is only gone through at rare intervals during the year, and lasts only a few days, so that the clerks soon recover their health and do not feel much affected by this dust. But in the years 1872 and 1874, when the money which had been paid by France to Prussia as a tribute was returned to France through mercantile transactions, the clerks spent several weeks in handling coins which had not been taken out of their bags in some years, and the affection spoken of above was now more marked than ever. The symptoms of this peculiar disease are frequent sneezing, coryza, and angina; the expectorations are black. There is a disagreeble metallic taste in the mouth, spoiling the flavor of food, loss of appetite, colic, nausea, and violent thirst. The bowels are mostly constipated; diarrhœa seldom prevails. The blue line along the gums, which is often noticed in patients who have been subject to treatment by silver, is absent. There is great feeling of prostration and frequent headaches. Owing to the peculiar circumstances under which this affection has been observed,

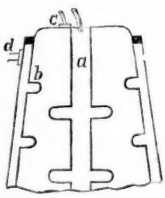
* The absence of free sulphuric acid in any sample of sulphate of aluminium is best ascertained, according to Prof. Wittstein, by treating the finely powdered salt with absolute alcohol. If the latter does not become acid, no free acid was present.

there can be no doubt as to its being due partly to the copper (verdigris), and partly to the oxidized state of the silver; both metals are used in the coinage of the five-franc pieces, in the proportion of nine-tenths of silver to one-tenth of copper. The constipation seems to be caused by the silver, because copper invariably causes diarrhœa [? ED. N. R.]. It is said that silversmiths often suffer from colic which is caused by their work.

The patients were treated with purgatives and a milk diet, and the disorder soon ceased. *Brit. Med. Journ.* and *Scient. Am.*

Improvement in Filtering Apparatus.

IT often occurs that filtering apparatus used for the filtration of water or other liquids through charcoal, sand, and other mediums, becomes inoperative on account of the formation of channels on the sides or in the interior, through which the liquid passes without coming into intimate contact with the filtering material. This drawback is overcome by using the improvement patented by Mr. A. van Haagen, which consists in applying circular projections of various diameter to the interior walls of the filtering apparatus. The cut illustrates a section of the upper portion of such a filter, which is filled through the orifice *c*, while the bottom (not shown in the cut) is provided with a corresponding outlet. The interior may be heated by means of the central steam-pipe *a* and the outside jacket *b*. The projections attached to the inner walls compel the liquid to distribute itself uniformly through the filtering medium. An apparatus thus constructed is particularly well adapted for the filtration of oils and fats through charcoal, and similar purposes.—*Dingl. Polyt. Journ.*, 231, 327.



Soluble Albuminate of Mercury.*

MR. H. DREES, of Bentheim (Hanover), has taken out a German patent for the preparation of a soluble albuminate of mercury, of sufficient purity to be employed hypodermically, without causing pain or abscesses, and to be rapidly absorbed. (These are the claims of the patentee.) Its preparation is given as follows:

An alkaline solution of albumen is mixed with so much of the solution of a mercuric salt (mercuric acetate is best) that there remains neither an excess of albumen nor of the mercuric salt. The resulting solution is now to be deprived of the excess of alkali and of secondary salts produced during the preceding operation, which may be done either by dialysis, or by precipitation with an acid, such as carbonic acid gas, in conjunction with dilute alcohol. The precipitated albuminate of mercury is washed with water containing a small quantity of alcohol.

The same result is obtained by adding to the alkaline solution of albumen freshly precipitated mercuric oxide, digesting, filtering, and separating the resulting albuminate in the manner indicated above.

The albuminate of mercury thus obtained may be dissolved in water, which is rendered slightly alkaline by the addition of traces of caustic alkalies, alkaline earths, or ammonia.—*Die Chem. Indust.*, 1879, p. 47.

* Compare NEW REMEDIES, 1876, pp. 167, 175.

The Source of Socotra Dragon's-Blood.

FROM the *Botanische Zeitung* we learn that Mr. J. M. Hildebrandt has cleared up the source of the Socotra and Zanzibar dragon's-blood, concerning which the authors of *Pharmacographia* say: "Species of Dracæna occur in these regions, but of the botany of Socotra itself nothing is known," thus suggesting plants of this genus as a possible source of the drug. Hildebrandt states that it is obtained from the stems of the *Dracæna schizantha* Baker.

The natives remove pieces of the bark or rind, about two inches square, and the cavity in two or three weeks' time becomes filled with the resin. Specimens of the dragon's-blood gathered from the tree itself in the Somali country, by Hildebrandt, when dissolved in alcohol, gave a splendid carmine-red solution; but that which is exported from Zanzibar appears to be much adulterated, since the resin dissolved in alcohol leaves an insoluble granular deposit, and the solution has a dirtier color. In Zanzibar it is used in ophthalmia, and is said to be called "maczieva ya watu wawili," meaning the milk of two men, or "matcho ya watu wawili;" *i. e.* the eyes of two men. In Socotra, according to Wellstedt, the dragon's-blood is called by the natives "edah," and by the Arabs "khoheil," and is taken by them to Muscat, reaching England occasionally by way of Bombay or Zanzibar.—*Pharm. Journ.*, April 26th.

AMBROSIA ARTEMISIÆFOLIA, OR RAG-WEED, AS A REMEDY FOR RHUS-POISONING.

TO THE EDITOR NEW REMEDIES:

SIR:—Having read your valuable journal for nearly two years, I have at various times seen articles relating to the value of different drugs in their action on the poison of Rhus, and, among others, that of *Grindelia robusta*, which is claimed (especially on the Pacific coast) to be a specific, I would like to add one more to the list, which I consider equally as efficacious, and it has the advantage of being always obtainable.

The one I mean is *Ambrosia artemisiæfolia* L., or rag-weed. The mode of applying it is this. Take of the fresh leaves any convenient quan-

tity, bruise them, and apply the juice that exudes from them to the surface of the parts affected with the poison; rubbing until the skin is discolored, when almost instant relief will be felt.

I have not tried it in any other way, except in the fresh state, but I think that if it was prepared in the form of a fluid extract, it would be equally efficacious.

I do not make this statement from hearsay, but from actual facts, having tried it myself.

J. A. ZABRISKIE.

CLOSTER, N. J., June 26th, 1879.

[ORIGINAL COMMUNICATION.]

CITRINE OINTMENT.

BY J. U. LLOYD.

THIS ointment has been so often written upon, and so many processes for its preparation have been suggested, that it seems as though little could be said upon the subject that can be of advantage.

The process of the Pharmacopœia preceding the last edition, in which twelve troy ounces of neat's-foot oil and four troy ounces of lard are employed, certainly was not in good proportion, as the experience of many has shown. Upon the other hand, it may be that we have gone into extremes, in doing away altogether with the oil, and, perhaps, others (than myself) may find that an ointment made with lard alone will eventually become hard and dry.

The following is the proportion of neat's-foot oil and lard that I have used for some years:

Lard, three parts.
Neat's-foot oil, one part.

It will be seen that the proportions of the former Pharmacopœia are reversed, and with care in other particulars, the ointment obtained will be without objection.

When mercury is dissolved in nitric acid U. S. P., the product is likely to be a mixture of mercurous and mercuric nitrates, the proportions varying with temperature at which the reaction takes place, etc. If mercuric oxide only be used and dissolved in excess of nitric acid, mercuric nitrate is formed.

One and one-half troy ounces of mercury is equivalent to 777⅗ grs. of mercuric oxide; therefore, one troy ounce and five drachms will about equal the mercury of the present officinal process.

Thus modified, the formula will read as follows:

Take of

Red oxide of mercury	780	grs.
Nitric acid	3½	fl. ℥
Neat's-foot oil	4	fl. ℥
Lard	12	℥

Dissolve the red oxide of mercury in the nitric acid. Place the lard and oil together into an evaporating basin of twelve to sixteen pints capacity, and raise the temperature to 180° F., remove the heat and add the solution of nitrate of mercury with constant stirring, using a wooden, glass, or porcelain spatula. Chemical action will at once ensue, and the temperature will rise to about 220° F., over which it should not be allowed to pass. It may be regulated by means of the solution. When effervescence ceases, and the ointment has cooled to 180° F., strain through a thin muslin strainer. It is necessary that the acid be of full strength.

It will be perceived that whatever advantage the foregoing may have over the present officinal formula, this must result from the fact that the salt employed is always mercuric, and that the addition of the oil may produce an ointment of better consistence.

This ointment can be prepared in a very short time.

In case the present officinal process is satisfactory to all concerned, it will not be advisable to change the formula.

CINCINNATI, O., June 24th.

Note on the Analytical Examination of Tinctures.*

MR. ALFRED H. ALLEN, F.C.S., has lately had occasion to examine some of the *tinctures* of the British Pharmacopœia, and, in the course of his examination, made some observations and experiences which are worth recording.

It should be remarked, at the outset, that the *tinctures* or *spirits* of the Pharmacopœia are of two distinct alcoholic strengths. "Rectified Spirit" Br. Ph. (spec. grav. 0.838, or 84% by weight of absolute alcohol, or 155½% of proof spirit) is directed to be employed in the preparation of the tinctures and spirits of chloroform, ether, aconite, ferric chloride and acetate, iodine, myrrh, nux vomica, camphor, ginger, etc. On the other hand, "Proof Spirit" Br. Ph. (spec. grav. 0.920 or 49% by weight of absolute alcohol) is directed to be used in making tincture of orange-peel, belladonna, cantharides, catechu, etc.

In many instances, the most expensive part entering into the composition of a tincture is the alcohol, and it is, therefore, necessary to be able to separate it so as to determine its quantity.

In many of the officinal tinctures, the separation and determination of the alcohol presents no difficulty. This is the case in all those which contain nothing volatile except the alcohol, or where only traces of odorous matters pass over with the latter, not sufficient to influence its specific gravity. Even tincture of iodine, ferric acetate, etc., may be deprived of their alcohol alone, if they are previously made alkaline with soda. But the tinctures of benzoin, myrrh, camphor, etc., and aromatic spirits of ammonia yield,

* Abstract of a paper read before the Society of Public Analysts, London, April 30th, 1879. The whole paper is printed in the *Analyst* for June.

on distillation, an alcohol which is more or less impregnated with volatile matters.

In the latter case, the volatile ingredient may often be separated before distillation, by diluting the tincture with water. The separated oil, etc., however, is then generally in so fine a state of division that it cannot be removed by filtration. But this difficulty may be overcome in the following manner: Dilute 50 cc. of the sample with water to about 350 cc. The greater part of the volatile oil or resin is thereby separated. Then add a few drops of a strong solution of *calcium chloride*, shake, and add some solution of *sodium phosphate*, under vigorous stirring and shaking. The precipitated calcium phosphate effectually entangles the separated volatile matters, and clarifies the liquid. The whole is next diluted to a definite volume, 400 cc. being sufficient, if the tincture was prepared with proof spirit; otherwise, 500 cc. is preferable. After thorough agitation, the solution is passed through a dry filter, a known measure is distilled at a low temperature, and the distillate made up to the exact volume before distillation. The density is then taken; this gives the amount of absolute alcohol in the amount distilled, and consequently, by a simple calculation, in the original tincture.

Sometimes it happens that apparently less alcohol is obtained by distillation than has actually been known to be present in a tincture. This is owing to the fact that alcohol dissolves certain substances with an increase of bulk. For instance, ten grams of camphor, dissolved in 90 cc. of alcohol of 0.830 spec. grav., yield a solution which measures 100 cc. Hence, in this case, the acohol might be said *not to dissolve* the camphor a all, but merely to convert it into a liquid condition, in which it occupies as much space as an equal bulk of water. This liquid camphor (10 cc.) then mixes with the alcohol (90 cc.), and produces 100 cc. of tincture of camphor. Now, every 10 cc. of the latter, of course, will yield only 9 cc. of an alcohol of 0.830. Such a correction is probably needed in many other instances. On diluting spirit of camphor with water, and using the method above described, it will be found impossible to entirely deprive the liquid of the taste and smell of camphor, so that the exact determination of the latter by this method is not feasible. The author suggests that, perhaps, the specific rotatory power of camphor, which, in alcoholic solution is +47.4 for the transition tint, may be used as a method of determination.

The author also has examined the Camphorated Tincture of Opium (Compound Tincture of Camphor, Br. Ph.; Paregoric), and found the following process best adapted. Enough alkali is added to the tincture to completely neutralize the benzoic acid, it is then diluted with water in the manner above described, when the oil of anise will separate. The small amount of camphor (one and a half grains in one ounce) which cannot be separated has no influence on the results. After adding chloride of calcium, sodium carbonate, instead of phosphate, may be added in this case, which not only precipitates calcium carbonate (for entangling the oil), but, at the same time, renders the liquid alkaline. The alkaline liquid remaining in the retort after distillation, on being acidified with hydrochloric acid, yields all its benzoic acid to ether or chloroform with which it is shaken. The amount of oil of anise may be judged off by the readiness with which the liquid is precipitated by water. The author suggests that a fair idea of the amount of opium present may be obtained by diluting the sample with proof spirit, and adding ferric chloride. On comparing the depth of color produced with that given by a standard tincture, an approximate estimation of the amount of opium present may be arrived at. Of course, more exact methods will yield closer results.

Crystallized Salicylate of Physostigmine (or Eserine).

THE fact that aqueous solutions of the salicylates of other alkaloids were found to have superior keeping properties, led Mr. E. Merck to prepare a salicylate of physostigmine (or eserine). This was at once found to surpass all other salts of this alkaloid in purity and stability. It forms colorless, shining, needle-shaped or short cylindrical, apparently rhombic crystals. It is easily soluble in twenty-four parts of absolute alcohol; but it requires one hundred and thirty parts of water for solution at ordinary temperature. Hot water dissolves it easily, and on cooling, solutions of one in fifty often remain for weeks without depositing the excess, owing to a state of supersaturation. The crystals remain unaltered when exposed to light (at least they had remained so for three weeks); aqueous or alcoholic solutions, kept in diffused light in well-closed vials, began to redden in one to two days, but never assumed the dark tint of the sulphate, which turns red a few hours after being dissolved in water. Its composition was found to be: physostigmine, 66.6 parts; salicylic acid, 33.4 parts, which would correspond to the formula, $C_{15}H_{21}N_3O_2.C_7H_6O_3$. In effect, it is at least equal to the other salts, if not more effective.—*Zeitsch. d. Oesterr. Apoth. V.*, No. 15.

A New Bug-Killer.—In Stanstead, Canada, a man sold ten-cent packages, "warranted sure death to potato-bugs; no risk of poisoning animals as with Paris green." The packages were not to be opened until time to use them. One victim having three, opened one and found two square blocks of wood, on one of which was written: "Place the bug on this block and press firmly with the other."

A Novel Soda.—That man had a strong desire to keep his pledge, at least literally, who, entering an apothecary's store, said, "If ye plaze, docthor, I'm a timperance man; but if ye have any soda wather of a stringth and quality resimblin' whisky, I'll throuble ye for a little."

RECENT PAPERS.

On Musk.—PROF. F. A. FLUECKIGER, in an article on the drugs at the late Paris Exhibition, says of musk: The musk-deer lives in Thibet, in Yün-nan, Sze-tchuen, and also, but probably more sparsely, in Pe-tsche-li or Chih-li. According to *L'Année géographique* (1876, 476), Manchuria also furnishes it. According to F. v. Richthofen, the principal depot of the musk trade is the city of Ta-tsien-fu, in about 30° N. L., west of the Province of Sze-chuen.

The largest portion of musk is carried to Shanghai by river, and finally reaches a sombre hall in Billiter street, in the city of London, between Fenchurch and Leadenhall, which is the great entreport of the civilized world for musk, ambergris, and civet. Here reigns the most expert connoisseur of musk, into whose hands all the firms who participate in Anglo-Chinese trade confide all the imported musk, so that the total available amount of it may be inspected or surveyed in this single room. Purchases of musk by perfumers or druggists are made through the special expert, who takes one pod after another out of the original package, and carefully examines each by inserting a slender knife-blade, without, however, really opening it. According to the result of this examination the pods are assorted; unless, which happens more seldom, whole original boxes, containing a few dozen pods, are purchased at once. The expert referred to mentioned to Prof. Flückiger that leather, blood, lentils, peas and lead were the common fraudulent admixtures.—*Arch. d. Pharm.*, January, 1879. 7.

Varnish for Replacing Turpentine and Linseed Oil Paints.—FR. THEIS, of Bissendorf, prepares a varnish consisting of 100 parts of colophonium, 20 parts of crystallized carbonate of sodium, and 50 parts of water, by heating these substances together and mixing them with a solution of 24 parts of strong liquor ammonia in 250 parts of water. With the mass thus obtained the pigments are levigated without the addition of linseed oil or turpentine; the paint dries readily without the aid of a drier and looks very well, especially when varnished. The paint keeps well, even under water, and becomes very hard. The cost is said to be about one-third that of ordinary oil-paints.—*Deutsche Gewerbe Zeitung*.

Preparation of Sulphate of Baryta for Painting.—Pure amorphous sulphate of baryta may be used as a water color but not as an oil paint. The sulphate gained by precipitation by sulphuric acid of the chloride or some other soluble baryta salt, called "blanc fixe," forms, when mixed with linseed oil, a glassy granular mass. The precipitate obtained by a solution of a sulphate behaves similarly, although in an inferior degree. Meissner proposes to dry the precipitate obtained by means of a sulphate and heating the same, as soon as possible after precipitation, to a red heat in a muffle. The mass is, while yet glowing, thrown into water. By this sudden change of temperature the sulphate of baryta is altered to a considerable degree. After being dried, ground, and levigated with a small quantity of linseed oil, it mixes readily with the required proportions of the latter, and forms a white paint equal in all respects to white lead. If the paint shall merely serve as a body for different shades of other colors, the latter must be added to the water.—*Deutsche Gewerbe Zeitung*.

Creosote in the Treatment of Phthisis.—Creosote has of late been somewhat extensively used and highly recommended in France in the treatment of phthisis. At present the following is the form in which it is administered: creosote, 3.50 grams; alcohol or water, about 125.00. A teaspoonful of this mixture is to be given twice daily, and its action is said to be (1) The lessening of expectorated matter—the sputum becoming more mucous in character. This result is obtained in from eight to fourteen days and is generally followed by a decrease in cough. (2) Decrease in cough, that usually occurring at evening being the first to lessen or disappear altogether; then the morning attack, and still later those which occur during the day. (3) Improvement of the appetite, and subsidence of any vomiting which may have been customary. (4) Diminution followed by complete subsidence of fever. (5) Decrease, and usually by the end of three weeks, disappearance of night sweats. (6) Marked improvement in the physical signs of the disease. (7) General improvement, and return of strength. (8) Gradual but appreciable increase of body-weight.—*The Practitioner* from the *Allgem. Centralztg.*

Tartrate of Morphia for Hypodermic Injection.—MR. ERSKINE STEWART believes, from his experience with tartrate of morphia, that it is the best form of morphia for hypodermic use or for administration by the mouth, owing to its uniformity as a preparation. Tartrate of morphia is a white powder, not unlike muriate of morphia in appearance, bitter, quite soluble in cold water, although, owing to the milky appearance of such a solution, it is better to employ hot water. Neither acids nor alcohol are required to render it soluble to a great extent in water, indeed 40 grains to the ounce is readily dissolved and has the advantages that (1) it is bland and unirritating; (2) it can be kept fresh for some time; (3) it is easily prepared; (4) its concentrated form is convenient for transportation and administration.

A solution of the above strength contains 1 grain in 12 minims; hence, 2 to 3 minims forms a usually sufficient dose.—*Edinburgh Jour. of Med.* and *Practitioner*.

South American Production of Iodine.—(DR. G. LANGBEIN.) The processes in use for separating iodine from the mother liquors of the nitre refineries may be divided into three classes: (1.) The liquors, without previous concentration, are mixed with a quantity of sodium sulphite corresponding to the iodine present, the iodine separated out is filtered through linen bags, washed, pressed, and sublimed. (2.) The mother-liquors are treated with sodium sulphite or bisulphite till the precipitated iodine is converted into hydriodic acid, which is then precipitated as *cuprous iodide* by a solution of copper sulphate and sodium sulphite. (3.) The iodine in the mother-liquors is concentrated by fractionated evaporation and crystallization, and the iodine, mixed with a proportionate quantity of sodium sulphite or bisulphite, is recovered by distillation from the acidified liquid.—*Die Chem. Industrie* and *Chem. News*.

Quinetum and Quinamia.—DR. DE VRIJ gives the analysis of the crude mixture of alkaloids known as *quinetum*, which he finds composed of:—

Cinchonine	37.0
Quinine	6.1
Cinchonidine	22.9
Quinamine	4.5
Amorphous alkaloids	21.1
Carbonate of sodium	2.9
Water	2.7

From this mixture he separates quinamine, $C_{19}H_{24}N_2O_2$, the properties, reactions, and salts of which he describes in detail. His formula agrees with that of Hesse.—*Arch. Neerland. d. Sciences* in *Chem. News*, No. 1012.

According to B. MOENS, chemist of the Dutch Cinchona plantations upon Java, the composition of *quinetum* is very variable. He found it to contain:

Quinine	4.2	to 22.2	per cent.
Cinchonidine	24	to 58	"
Cinchonine	18	to 54	"
Amorphous alkaloids	4.1	to 21.7	"
Water	1.2	to 16.8	" etc.

—*Natuurk. Tijdsch. v. Ned. Ind.* and *Journ. de Ph. d'Anvers.*, May, 1879.

Hyoscyamine in Dementia.—BEVAN LEWIS, of the West Riding Asylum, England, reports a single case in which left hemiplegia and facial paralysis, with prior loss of consciousness but no convulsion, was followed by

gradual recovery, speech trouble, and great confusion of memory. To relieve the dementia, hyoscyamine was given thrice daily in doses of $\frac{1}{4}$ of a grain and produced a rapid improvement in mental faculties.—*Med. Press and Cir.*

A New Enamel for Iron.—Eben Colby Quinby, and Joseph Cary Whiting have obtained a patent on a new composition for enamelling iron ware, which consists of $45\frac{1}{2}$ kilogr. of silicate, 16 kg. soda, 34 kg. borax, $4\frac{1}{2}$ to 9 kg. gypsum, and a quantity of *arsenious acid* amounting to $1\frac{1}{8}$ of the above mixture. These ingredients are melted together, and the melted mass is run into water, in order to allow it to granulate. $45\frac{1}{3}$ kg. of this mass are then ground together with $2\frac{1}{4}$ kg. of best white clay, which gives body and adhesiveness to the enamel. During grinding, 226 grams of magnesium carbonate (for every $45\frac{1}{3}$ kg. of enamel-mass) are added, in order to render the enamel less transparent. The ground mass is mixed with water to the consistence of cream and mixed with sulphate of magnesium, until the mass ceases to run off the surfaces to which it has been applied, but forms a sticky paste which is uniformly distributed. For this purpose, 57 grams of magnesium sulphate are sufficient (for every $45\frac{1}{3}$ kg. of the mass). The paste having been applied, the utensils are dried in ovens at temperatures varying between 38° and 77° C. (100°–171° F.), and then subjected to a dull red heat in muffles. Four minutes only are necessary to melt the mass, and the resulting enamel is very handsome and tenacious. [*It is, however, a serious question, whether, in a sanitary point, it is free from objections, as the arsenious acid, which forms one of the ingredients, evidently may become the source of danger.* It would be well if the sanitary authorities were to investigate the question of enamels of cooking vessels anew.]

Fraudulent Pullna Water.—Prof. Battandier, of Algiers, reports that imitations of this celebrated mineral water are sold both at Paris and at Algiers. The fraudulent water contains only traces of chlorides and of lime salts, but it contains in each litre 15 grams each of sodium sulphate and of magnesium sulphate.—*Journ. de Ph. et Ch.*, May, 1879, 454.

Melting Point and Solvents of Mercuric Iodide.—H. Köhler draws attention to an error which has long made the rounds in chemical text-books as to the melting point of mercuric iodide (red or biniodide). Instead of melting at 238° C. (460.4° F.) to an amber-colored liquid it first turns pure yellow (at about 150° C.), then, when near the melting point, deep orange, and finally melts at 253–254° C. (487.4–489.2° F.) to a blood-red liquid. It is often stated that mercuric iodide may be crystallized from boiling nitric acid. The author, however, finds that, if strong, the acid partly decomposes the iodide, and, if weak, it does not dissolve it. He finds that boiling *hydrochloric acid* is the best solvent, and that it crystallizes from this liquid in large red crystals, of a diamantine lustre, with green reflection. The crystals are tetragonal prisms united into bunches.—*Ber. d. Deutsch. Chem. Ges.*, 1879, 608.

Carbolic Acid Poisoning by Enema.—Dr. Praetorius, to relieve an obstinate attack of diarrhœa in a delicate lady, aged 45, who had been several weeks sick, ordered an enema of a one-per-cent solution of carbolic acid of which a quarter of a litre (about one-half pint) was mixed with one-third litre of warm water. Hardly had one-third of this been injected when the patient began to complain of singing in the ears, giddiness and weakness, and collapsed. The enema was, of course, suspended and the patient caused to empty her bowel, and it was not until two hours elapsed and the bowel had been thoroughly washed out with warm water, that she revived. The diarrhœa was cured.

Quinetum Sulphate in Ague.—This is the name given by an English manufacturer to a preparation of the mixed alkaloids [See "Quinetum and Quinamia" above.] W. Anstie Hollis, M.D., writes to *The British Med. Journ.* of May 10th, "Drs. Cheevers, Ewart, and Bird have used it in India in the treatment of intermittent fevers with success. Dr. Vinkhuysen narrates some cases in the *Practitioner* (Feb., 1878), wherein quinetum successfully cured ague after quinine had failed to do so. He found it to be specially serviceable in those protean forms of malaria classed usually as masked ague. The curative value of the red cinchona alkaloids, as far as my own experience avails, far exceeds that of the comparatively small quantity of quinine which they contain. . . .

"A dose of quinetum sulphate of from 10 to 15 grains is almost invariably sufficient of itself to stop the course of a febrile intermittent. In two cases wherein it failed to do so, I subsequently tried quinia with no better result."

Poisoning by Laburnum Seeds.—Several children returning from a pic-nic plucked and ate the pods of a laburnum tree. The symptoms commenced in from ten to fifteen minutes, with violent abdominal pain, followed, in most cases, by nausea and vomiting, which persisted in some for two or three hours. Great depression then came on somewhat rapidly, amounting in some cases to violent prostration. There were in no case the tetanic convulsions mentioned by Christison, nor was there, so far as known, any purgation. The pupil was markedly dilated; the pulse, rapid and feeble; the face, red and suffused, and perspiration appeared on the forehead. Exhaustion continued several hours and was followed by drowsiness. The only treatment noteworthy was the use of emetics.—Boyd B. Joll, *Br. Med. Journ.*

French Mushroom Culture.—The cultivation of the common mushroom (*Agaricus campestris*) or "champignon" of the French, carried on in caves in the neighborhood of Paris, has risen to gigantic proportions. The daily production is estimated at 66,000 lbs. The average price of ten cents per pound give $6,600 as the value of the daily harvest, or $2,400,000 per annum. One cultivator at St. Denis employs fifty workmen and nineteen horses. His daily expenses are $100 per day. His beds have a total length of five miles. Caves like these not only supply the wants of the city above them, but those of England and other countries also; large quantities of preserved mushrooms being exported, one house alone sending to England no less than 14,000 cans annually. Mushroom caves of another type are situated at some little distance from Paris, one of which, visited and described by Mr. Robinson, of England, may be taken as a type. This was situated at Frepillon (Méry-sur-Oise). Here are vast quarries, both for the building stone and plaster so largely used in Paris. The interior of one of these quarries used for growing mushrooms looks like a vast cathedral. Here in 1867 the mushroom culture was in full force, and as many as 3,000 pounds a day were sent from thence to Paris.

M. Renaudot, the proprietor, had during this year the extraordinary length of over 21 miles of mushroom beds in one great quarry at Méry; and in 1869 there were 16 miles in a cave at Frepillon. Other important caves are mentioned al Moulineaux, Montrouge, and at Vitry in Picardy.—*Scient. Am. Suppl.*, May 31st.

Caviar.—This substance, which is considered a great delicacy by gourmands, is the prepared roe of the sturgeon and has its orgin in Russia. This roe differs materially from that of other fish, in being of a large size and very thin skinned, containing only an oily jelly which melts away in the mouth, having little or no residuum, and these are held together by a network of cellular tissue, fat, and muscle in large masses, which generally exceed in size the head of the largest man.

A net of very small mesh, spread over a frame, does duty as a kind of coarse sieve, and the roes being lightly pressed and kneaded over this, the eggs are detached and fall into wooden tubs placed below, each grain being of a very dark brown or black color, and utterly distinct from the others.

To make "grained caviar" the eggs are now sprinkled with salt ground very fine, of which from 3 to 5 pounds to thirty-six of eggs are used in the hotter months, while only $1\frac{3}{4}$ to $2\frac{1}{2}$ pounds are sufficient in cold weather, the

least possible quantity of salt being a great desideratum. A wooden fork with from eight to ten prongs is used to stir in the salt, and the eggs become first doughy, then swell, and finally give out a noise like the stirring of small scales of glass, a sure proof that the process is completed, after which the caviar is close packed in hard-wood kegs.

In making "grain caviar" the eggs fall into tubs of brine stirred as before, and in lots of about one hundred-weight subjected to heavy pressure in coarse sacks, until the brine is expelled and the whole compressed into a cheesy mass.

Nearly one-third of the contents of the eggs are pressed out with the brine, and the caviar thus made is packed in large casks lined with napkin linen, from whence it is called *caviar à la serviette* or "napkin caviar." *Caviar à sac*, as its name denotes, is choice pressed caviar, put up in linen sacks, and other choice preparations are shipped in hermetically sealed cans and boxes.

The fattest caviar, made in midsummer, is merely soaked in brine and packed, without pressing, in casks holding from 180 to 360 lbs. each. Much roe which is tender to to the touch and half spoiled is soaked in very strong brine, packed in large casks holding from 900 to 1,000 pounds, and is worth only from six to eight cents per pound, while the fat summer caviar brings from twelve to eighteen cents.

The choice kinds of fresh caviar packed in small kegs cost in Astrachan from sixty to seventy cents per pound, while the pressed brings but about forty-five to forty-eight cents, while that of the "sterliad" and some especially choice makes are never exported.

Nearly 400 000 pounds are annually sent from Astrachan to Berlin, Dresden, and Vienna; and England uses nearly $10,000 worth yearly, but in this market but little is used except by foreigners, who have contracted a taste for it elsewhere.—*Bost. Journ. of Commerce.*

Analysis of Burton Ales and Dublin Porter or Stout.—(R. LAWRENCE and C. W. REILLY.) From the following table it will be seen that some of the principal elements of nutrition are present in larger quantities in the ordinary Dublin double stout than in the Burton ales.

The phosphoric acid which exists in the form of phosphates was determined in the ash by uranium acetate. The quantity of albuminoid matters was determined by first finding the amount of nitrogen by Will and Varrentrapp's method, and then taking 15.92 parts of nitrogen as equal to 100 parts of albumen. The following numbers express the grains per gallon of the substances estimated.

	Albuminoids.	Acetic Acid.	Alcohol.	P_2O_5	Total Solids.	Spec. Gr.
Bass' Ale.....	336.9	96.0	4374.6	19.4	4884	1.0138
Allsopp's Ale.....	321.9	167.0	4461.2	18.4	3110	1.0144
Foreign D'ble Stout	561.8	258.7	5128.2	123.1	4374	1.0116
Double Stout.....	428.7	143.1	4643.3	111.1	5068	———
Guinness' S'le Stout	307.8	160.3	3543.3	82.7	3838	1.1243

—*Chem. News*, 1879, p. 215.

How to take Castor-Oil.—DR. STARCKE recommends as a superior method, especially for children, to mix the oil with coarsely grained sugar, until it forms a thick dough, which may be flavored with powdered cinnamon or other aromatics. One part of oil requires about 3 parts of sugar. Children take this without hesitation. In place of sugar, the *Pulvis Glycyrrhizæ Compositus* may often be used with advantage, as it increases the action of the oil. It is best to allow the dough to become stiff by placing it on ice for a short time.—*Berl. Klin. Wochensch.* in *Pharm. Zeit.*

Cerium-Aniline-Black.—(HEINRICH BUEHRIG.) A few years ago the discovery was made that true fast aniline-black could be produced by adding a very small quantity of a soluble *vanadium* salt to the mixture which had previously been employed for this purpose (see NEW REM. 1876, p. 144). But already in 1874 K. Kruis drew attention to the variety of black produced by intervention of cerium salts. This fact is further confirmed by the author, who directs the following mixture, which is applied to fabrics by printing with copper-rollers:

White starch.....	14 kilos.
Light-yellow roasted starch.....	6.5 "
Water.....	110 litres.
Sal ammoniac	1,900 gm.
Potassium chlorate.....	3,100 "
Aniline hydrochlorate	6,150 "

Each 100 kilos of this mixture require 1,500 cc. of a cerium solution (to be described directly), containing 49.7775 gm. cerium oxide, although even a smaller quantity will answer. The cerium solution is prepared directly from the mineral cerite, by mixing 1 part of *most finely* powdered cerite with 1 part of strong sulphuric acid to a magma in leaden dishes, and allowing to stand for several hours in a warm place, frequently stirring. The mass swells up, loses some acid by heat and dries up to a dry gray mass. This is powdered, once more stirred up with 250–300 gm. of sulphuric acid, and again left standing for 24 hours when the excess of sulphuric acid is evaporated off over an open fire. The mass is then thrown, in small portions at a time, into ice-cold water (to prevent its caking); after a few days the nearly saturated liquid is poured off, and the residue washed until exhausted; all the liquids are united, and may be at once used for dyeing, but, if intended for the supply of the market, must of course be evaporated to dryness, when the product represents a crystalline mass of a bright rose-color, owing to the presence of didymium, which, however, does not interfere with its action.—*Dingl. Polyt. J.*, 231, 77.

Cuprous Chloride.—(MAX ROSENFELD.) The author states that this salt, which has hitherto been found to be very unstable when exposed to light and air, may be rendered perfectly white and unalterable in air and light by washing it with glacial acetic acid, until it is perfectly white and shows not the least greenish tinge by transmitted light. It may then be spread out on filters and dried either in a water-bath or a drying oven, until all acetic acid has evaporated. The salt has a very peculiar behavior towards dilute nitric acid. Suspended in or mixed with dilute nitric acid (1.6), *and kept in the dark*, it remains unaltered, but on exposure to direct sunlight, the crystals *rapidly turn black*, and after a while shine like metallic copper, with a true metallic lustre.—*Ber. d. Deutsch. Chem. Ges.*, 1879, 954.

Wine of Lactophosphate of Lime.—(A. CIULLINI.)

Sodium phosphate.....	250 parts.
Calcium chloride.....	75 "

Dissolve the salts separately in distilled water, filter, and mix the solutions by pouring that of chloride of calcium into the other. Collect the precipitate on a filter, wash it, and dissolve it in

Lactic acid, concentrated.....	125 parts.

Then add

Best white wine (sherry, etc.).....	2,500 "

Filter and bottle.—*L'Orosi*, 1879, 179.

The Adulteration of Santonin with Boracic Acid.—Many adulterations of chemicals, quoted in text-books are no doubt the invention of chemists with vivid imaginations. The adulteration of santonin with boracic acid, although occasionally reported by different observers, has nevertheless been generally pooh-poohed, as probably an invention. But we have now the statement of Messrs. Gehe & Co., of Dresden, that an order had reached them from a purchaser, asking them to put up for him, with their own label, santonin mixed with $\frac{1}{3}$ of its weight of boracic acid! It is hardly necessary to add that the cus

tomer was asked to go elsewhere with his orders. Mr. E. Merck, of Darmstadt, likewise reported lately that he had met with santonin containing about 35% of boracic acid.

Detection of Tartaric in Citric Acid.—CAILLETET recommends to use potassium bichromate for this purpose. This salt imparts to tartaric acid, in the cold, a black or deep purple-violet color, with evolution of carbonic acid gas; while it turns citric acid coffee-brown, *but very slowly*. The test is performed thus: Pour 10 cc. of a saturated solution of potassium bichromate into a test-tube, add 1 gm. of the suspected acid and shake. If the citric acid was pure, the liquid will show no change of color, even after ten minutes. If it, however, contained 5% of tartaric acid, it will be brownish-black, or, in presence of only 1%, coffee-brown.

The active Principles of Squill.—(Dr. THEOD. HUSEMANN.) Mr. E. Merck, of Darmstadt, has lately reinvestigated the active constituents of squills, which heretofore were comprised under *one* name, viz. scillitin, and found in it three separate principles, which were handed to Prof. Husemann for physiological examination. The latter denominated them respectively *scillitoxin*, *scillipicrin*, and *scillin*, names which Mr. Merck has adopted for quoting them in his price-list.

Scillitoxin is the most active portion, and appears as a cinnamon-colored powder. It is an energetic cardiac poison, but little inferior to digitoxin. In dropsy, its highest safe average dose would be ½ to 1 milligram ($\frac{1}{130}$—$\frac{1}{65}$ grain). Being only soluble in alcohol, it is best administered in pill-form.

Scillipicrin is very soluble in water, hygroscopic, and very bitter. It is not yet determined whether this substance acts as a diuretic, although it would be very useful in this case, as it could be administered hypodermically. It is much less energetic than the former, but it does somewhat retard the action of the heart.

Scillin is soluble in alcohol and boiling ether, from which latter it crystallizes; and but little soluble in water. It has no cardiac effect, and is contained in squills in such minute proportion that its share in the therapeutic action of squill is probably *nil.*—*Pharm. Zeit.*, No. 39.

MR. E. MERCK, in No. 38 of the same journal, had already given a preliminary notice of these substances, from which we extract merely the following:

Scillitoxin is insoluble in water and ether; soluble in alcohol. The solution is intensely bitter and biting. The dry substance is a violent irritant of the nostrils. *Scillipicrin* is a yellowish-white, amorphous, bitter powder. *Scillin* is a light-yellow, crystalline, tasteless powder.

Scillitoxin finally arrests the pulsations of the heart in *systole;* scillipicrine in *diastole;* which appears to be a very peculiar antagonism between two constituents of one and the same drug.

Extra strong Essential Oils.—The firm of Heine & Co., in Leipzig, have placed on the market a series of what they call "extra strong essential oils," which are produced by fractional distillation of the ordinary essential oils heretofore supplied to the market, and which often represent the odor or flavor of an oil in a higher degree, sometimes with a modification of the aroma.

Gelatin Suppositories.—(C. J. MEAD.) The author gives the following hints: In making a gelatin base, two points have to be observed: first, it must have a melting point below 90.5; secondly, it must contain enough gelatin to impart the necessary firmness to the mass. Take any quantity of best French gelatin (that sold in thin sheets), cover with cold water until it is thoroughly soft, drain off the excess, and to every 12 parts by weight add 5 parts of glycerin. Dissolve by the aid of a water-bath. The medicament is to be rubbed perfectly smooth with a few drops of glycerin, and added to the proper quantity of the excipient. In this way, if the mixture is not overheated, a suppository is formed which answers in every respect the requirement above-named, is elegant in appearance, and posseses the advantage of having the medicament equally distributed. They retain their elasticity and shape for any length of time, provided they be kept excluded from the air and dusted with lycopodium.—*Pharm. J. and Trans.*, May 17th.

Composition of various Foods for Infants.—DR. N. GERBER, of Thun, has published a table of the most usually employed foods for children sold in Switzerland, from which we abstract those which we presume are more or less familiar to our readers:

I. *Condensed Milk.*

The numbers in the first column represent:

1. Anglo-Swiss Condensed Milk Co., Cham.
2. Swiss Condensed Milk Co., Freiburg.
3. Condensed milk from H. Nestlé, Vivis.
4. Norwegian Condensed Milk Co., Christiania.
5. New York Condensed Milk Co. (Gail Borden).
6. American Condensed Milk Co.

No.	Year.	Water and volatile Substances.	Salts.	Fats.	Albuminates.	Sugar.	Name of Analyst.
1.	1877	26.14	2.05	9.92	11.90	50.80	Gerber
	1878	24.70	2.11	6.02	9.77	57.40	Soxhlet
2.	1879	25.75	2.15	10.66	13.41	48.02	Gerber
3.	1878	25.28	2.03	8.62	10.25	53.82	Soxhlet
4.	1878	30.08	2.01	7.54	9.02	51.35	Soxhlet
5.	1877	27.72	1.81	8.61	9.92	51.84	Gerber
6.	1877	23.38	1.56	9.23	10.22	51.57	Gerber

Of course, condensed milk is here understood to be that variety which is preserved by the addition of a large quantity of sugar, and put up in air-tight cans.

II. *Farinaceous and other Food for Infants.*

The numbers in the first column represent the following commercial substances:

1. H. Nestlé's Food for Infants, Vivis.
2. Kindermehl of Anglo-Swiss Cond. Milk Co., Cham.
3. Dr. N. Gerber's Kindermehl (Lacto-Leguminose).
4. H. v. Liebig's Malto-Leguminose.
5. Liebig's Kindersuppe.
6. Dr. Frerich's Kindermehl.
7. Dr. Ridge's Food for Children, London.
8. Dr. Coffin's Food for Children, New York.

Nestlé and many others prepare their "food" from baked or roasted wheat-flour and condensed milk.

No.	Year	Water and volatile Substances.	Salts	Fats.	Albuminates.	Carbohydrates, soluble and insoluble.	Name of Analyst.
1.	1878	6.36	1.85	4.75	10.96	76.08	Physiol. Inst., Leip.
2.	1879	7.79	1.46	5.44	8.84	76.45	Radenhauser
3.	1879	4–5	2–3	5–6	18–20	65–70	Gerber
4.	1879	9.42	3.01	1.34	20.47	65 66	Gerber
5.	1877	40.44	1.71	0.82	8.41	48.61	Gerber
6.	1879	7.32	2.45	0.26	16.80	74.00	Hager
7.	1877	3.98	1.13	1.95	9.05	85.59	Gerber
8.	1877	8.29	3.02	1.59	17.15	69.94	Gerber

No. 6 is, according to the German patent, saccharated flour.

No. 7 appears to be only a mixture of various cereals (Gerber).

No. 8 consists mostly of the flour of Leguminosæ (Gerber).—From *Schweiz. Wochenschr. f. Pharm.*, No. 18.

Cinchona-Bark containing 10% of Quinine.—J. E. HOWARD, in the *Gardener's Chronicle*, states that a correspondent of his in the Wynaad (British India) has succeeded completely in growing there the true *Cinchona Ledgeriana* [see NEW REM., 1876, 355] and in obtaining bark from it containing 10% of quinine of great purity. Mr. Howard believes this to be the true Calisaya. He points

out that the red Calisaya bark, called "Rojo" by the natives of Yungas, and distinguished from ordinary calisaya by its heaviness, closeness of grain, and darker color, and the purple-red color of the leaves, is the male plant of the true calisaya. Mr. Howard considers that the color of the leaves is of no botanical importance and has no reference to the production of quinine. The Bolivian *C. micrantha*, which has been found to contain a fair quantity of quinine, has, however, small drooping flowers like those of the Ledgeriana, and so far as can be learnt, the leaves of all species rich in quinine are smaller than those yielding chiefly the other alkaloids. The importance of the success with the *C. Ledgeriana* in the Wynaad may be gathered from the fact that, at the bark sales at Amsterdam during May last, the Ledgeriana bark realized as much as 15*s.* per lb.—*Pharm. J. and Trans.*, May 31st.

The Alkaloids of Pomegranate Bark.—MR. TANRET, who discovered the alkaloid pelletierine, or granatine (*Durand*), or punicine (*Hager*)—see NEW REM., 1878, p. 278—has announced the discovery in the same bark of three other volatile alkaloids, which he is at present engaged in studying.—*La Ruche Pharm.*, 1879, No. 4.

The Alkaloids of Japanese Aconite Root.—(C. R. A. WRIGHT and A. P. LUFF.) The authors have worked up considerable quantities of the Japanese Aconite root, which they find—as Messrs. Paul and Kingzett previously—to contain nearly three times as much alkaloids as the European variety, namely one gram of crystallized *japaconitine* per kilo, or, altogether, two grams of alkaloids per kilo, while about one gram of amorphous bases is retained in the mother-waters. They found the roots to contain a special variety of aconitine, which they named *japaconitine*. It has the composition $C_{66}H_{80}N_2O_{21}$ [!]. On saponification it splits into benzoic acid and a new base, *japaconine*.

The Alkaloid of Quebracho Bark.—(FRAUDE.) *Aspidosperma Quebracho* Lor. is an apocynaceous tree, quite common in the Province of Santiago, in Chili [also in Brazil]. Its bark has a brownish-yellow color, inclining to reddish. [The wood is very hard, and contains from 15.7 to 18% of tannin, differing from that of oak-bark and chestnut-wood, besides 2.8% of an astringent acid, resembling gallic. According to Arnaudon, it also contains a yellow dye-stuff. See *Dingler's Pol. J.*, vol. 231, p. 451.—ED. N. R.]

The bark has long been used in its native country as a remedy in intermittent fever, and is said to approach cinchona bark in efficacy. The author found in it an alkaloid which he termed *aspidospermine*, easily soluble in alcohol and ether, little soluble in water. The solutions of the sulphate and hydrochlorate are very bitter, resembling quinine. Analysis proved it to have the composition either of $C_{22}H_{28}N_2O_2$ or $C_{22}H_{30}N_2O_2$, further examinations being necessary to decide between these two formulæ.—*Ber. d. Deutsch. Chem. Ges.*

The "Wabayo" Arrow Poison of East Africa.—The Africa-explorer, J. U. Hildebrandt, lately described, in the session of the "Gesellschaft naturforschender Freunde at Berlin," the *Carissa* tree [a new species of this, probably], belonging to the nat. fam. of Apocynaceæ, which occurs under the name "Wabayo" in the Somali mountains, as well as in Taita, Duruma and Ulu, in Ukamba, and from which an arrow-poison is prepared. The trees are knotty, not over eighteen feet high, with dark-green leathery leaves, white, roseate flowers, and fruits which are violet-red when ripe, with eatable flesh. The seeds, which are perhaps poisonous, are carried in strings by children as necklace. The Somali tribes state that the foliage is eaten by camels and goats without injury, but only when other fodder is absent. Further distant tribes, however, say that the tree is so poisonous that birds which alight on it fall dead to the ground. The poison is obtained by the Somalis from the root; by the Wanika, Wakambas, and other tribes, from the heartwood. The wood forms an article of trade.—*Die Natur.*

Borocitric Acid.—(EDMUND SCHEIBE.) The author has made elaborate experiments to account for the fact that boracic acid is rendered much more soluble in water by the presence of citric acid. A compound, containing tartaric and boracic acids, and named boro-tartaric acid, has already been presumed to exist by others (Heinrich Rose, etc.). He obtained finally a definite compound acid, containing one molecule of boracic and two molecules of citric acid, which was found to be monobasic, that is, one molecule of the acid is saturated by one molecule of a monad base, as potassium.—*Pharm. Zeitschr. f. Russl.*, Nos. 9, 10, 11.

New American Industries.—The *Grocer* notes that six years ago we imported from France *cream of tartar* to the extent of 6,000,000 lb. yearly, but so successfully has the manufacture of it been carried on in this country, that last year not a single pound was imported. Notwithstanding that the crude materials have at present to be imported, the price of the manufactured article has been reduced from 32 cents per pound, the rate for the French article here, to 23 and 24 cents per pound for the American production. France and England formerly sent us annually 500,000 lb. of *tartaric acid*, while the importation for the last fiscal year was 183 lb. England formerly monopolized our market for *citric acid*, to the extent of 250,000 lb. annually, at the rate of $1.30 per lb., while last year 27,018 lb. were imported and sold at the same price as the American article, 57 cents per lb. At present the lime juice from which citric acid is made has to be imported, but it could easily be produced from fruits grown in Florida, if only sufficient energy were put into the work. [Messrs. Powers & Weightman, however, use domestic lime juice in the manufacture.]

If lemon and lime growers of the South can be induced to prepare the lime juice, the entire production and manufacture of citric acid will be kept in this country, saving hundreds of thousands of dollars annually, and developing another great industry. *Borax* was formerly brought from England at the rate of from 600,000 lb. to 1,000,000 lb. every year. Owing to the development of borax mines in Nevada, this importation has largely fallen off, and the report for the last fiscal year showed only 3,492 lb., and the price of the refined article, which is now prepared in this city, is only from 8 to 9 cents per lb., when formerly it was 35 cents per lb.; England being now among the buyers where she was the principal seller, both of the crude and refined article.—*Scient. Amer.*

Salicylic Acid in Psoriasis.—DR. EDM. PREISSMANN reports having obtained excellent results in the treatment of psoriasis by the following method. A bunch of charpie or purified cotton is wrapped in a clean rag, and tied. This is then dipped into a solution of 6 parts of salicylic acid in 100 parts of alcohol, and applied for a short time, by friction, to the affected parts. The scales immediately detach themselves in masses and fall off. After a few rubs, the surface will be smooth, red and shining. This result is ordinarily reached only by long washing and bathing. The above method might be termed "polishing the skin," and has the peculiar advantage of removing the fat from the diseased portions of the skin, whereby the latter becomes more susceptible for the remedy to be applied afterwards. It also suppresses the obnoxious itching. After the skin has been "polished" in the manner described, the real remedy (namely oil of cade, chrysophanic acid, etc.) is applied, when the disease will speedily disappear.—*Wien. Med. Presse*, Ap. 20th.

Pilocarpine as Hair-Restorative.—An ophthalmologist of Cologne states that the subcutaneous injection of pilocarpin has a remarkable invigorating effect upon the growth of the hair. In one case, the head of a sexagenarian, which had for some time been bald, became covered, within a short time, with dense black and gray-speckled hair. [We need hardly add that we have strong doubts as to reliability of this report.—ED. N. R.]

BIBLIOGRAPHY.

PHOTOGRAPHIC ILLUSTRATIONS OF SKIN DISEASES. By GEORGE HENRY FOX, A.M., M.D. Forty-eight colored plates taken from life. New York: E. B. Treat, No. 805 Broadway. $2.00 per part.

THE first part of this atlas has recently come to hand, and contains illustrations and text of Comedo, Acne (vulgaris), Lepra (tuberosa), and Elephantiasis. The method of illustration adopted resembles that of the Albert-type, in which a photographic negative is made of a nature which adapts it to be used to print from and the difficulty which has heretofore been met with in coloring a photographic surface is avoided. In the present instance the coloration is little more than the faintest possible wash, the prominent shadows or features of the picture being retouched with India ink and colors. Attempts have already been made to make use of photography for the delineation of skin diseases without an approach to the success which has been achieved in the present instance.

The text which accompanies each plate adds very materially to the value of the work.

ELEMENTS OF MODERN CHEMISTRY. By ADOLPHE WURTZ. Translated and Edited, with the Approbation of the Author, from the Fourth French Edition, by WM. H. GREENE, M.D., etc. With One Hundred and Thirty-two Illustrations. Philadelphia: J. B. Lippincott & Co. 1879, 8vo, pp. 687.

THIS work on the principles of chemistry is by one of the most eminent and advanced of the modern authorities. Although there is no lack of reliable writings in the English language on this subject, this latest addition will have many features to recommend it. The author directs attention to the space given to the consideration of the atomic theory and to the chemistry of the metalloids, the latter being relatively more developed than the remainder of the book. A colored plate is provided to illustrate the solar spectra of lithium, sodium, potassium, strontium, calcium, and barium. As an indication of the comprehensiveness of the work we note that descriptions are given of 134 acids, 11 alcohols, 17 ethyl compounds, 24 potassium compounds, etc. Considerable space is also devoted to the numerous products of coal-tar.

DISEASES OF THE INTESTINES AND PERITONEUM. By JOHN SYER BRISTOWE, M.D., J. R. WARDELL, M.D., J. W. BEGBIE, M.D., S. O. HABERSHON, M.D., T. B. CURLING, F.R.S., and W. H. RANSOM, M.D. New York: Wm. Wood & Co. 1879, 8vo, pp. 243.

THIS sixth volume of Wood's Library of Standard Medical Authors is a fasciculus of Reynold's Practice of Medicine and embraces chapters relating to enteralgia, enteritis, obstruction of the bowels, ulceration of the bowels, cancerous and other growths of the intestines, diseases of the cæcum and appendix vermiformis, colic, colitis, diarrhœa, dysentery, duodenum, intestinal worms, peritonitis, tubercle of the peritoneum, cancer of the peritoneum, affections of the abdominal lymphatic glands, ascites, and abdominal tumors.

The season of the year in which the volume makes its appearance increases its already considerable value to all physicians.

THE PHARMACOPŒIA OF THE BRITISH HOSPITAL FOR DISEASES OF THE SKIN, LONDON. Edited by BALMANNO SQUIRE, M.D. London: J. & A. Churchill, 1879, pp. 80.

WE believe that this is not the first edition of this work. It contains a large number of the formulas which have from time to time been adapted, by the surgeons to this well-known hospital, to the special indications for treatment in skin affections, and barring the fact that the difference in climate may be of some effect upon the progress or frequency of certain skin affections in the two countries, there is no doubt that the work will be of value in this country as well as in England.

LONG LIFE AND HOW TO REACH IT. By JOSEPH G. RICHARDSON, M.D., etc. Philadelphia: Lindsay & Blakiston, 1879, pp. 160.

THIS is the second of the series of "American Health Primers" now being published by this house, and comprises chapters on the following topics: I. Introductory Considerations; II. Causes of Disease; III. Heat and Cold as Causes of Disease; IV. Contagion; V. Clothing; VI. Pure Air; VII. Pure Water; VIII. Baths; IX. The House; X. Food; XI. Impurities in Food and Drink; XII. Exercise; XIII. Sleep; XIV. Mental Power; XV. Parasitic Enemies; XVI. Old Age.

Dr. Richardson is well known as an instructive and agreeable writer, and this volume of the series cannot fail to be one of the most desirable for the general reader.

Pamphlets Received.

THE AMERICAN MEDICAL COLLEGE ASSOCIATION, Third Annual Meeting held at Atlanta, Ga., May 3d and 5th, 1879. Detroit, 1879, pp. 15, 8vo.—THE TREATMENT OF LUPUS. By HENRY G. PIFFARD M.D. Reprinted from the *Medical Record* of April 5th, '79, pp. 10, 8vo.—CONSTITUTION AND BY-LAWS OF THE ROCK COUNTY PHARMACEUTICAL ASSOCIATION. Adopted June 9th, 1879, Janesville, Wis., 1879.—BIBLIOTHECA DERMATOLOGICA. Catalogue of Cutaneous Literature in the Library of HENRY G. PIFFARD, M.D. New York, 1879, pp. 37, 8vo. [Said to be the first bibliographical list of this subject yet published.]—NINTH ANNUAL ANNOUNCEMENT OF THE CINCINNATI COLLEGE OF PHARMACY. Cincinnati, Ohio, 1879.—WILFERT'S KOUMISS, 8vo, pp. 18.—AN ARGUMENT made before the American Medical Association at Atlanta, Ga., May 7th, 1879, against the Proposed Amendment to the Code of Ethics, Respecting the Teaching of Students of Irregular or Exclusive Systems of Medicine. By EDWARD S. DUNSTER, M.D. Ann Arbor, Mich., 1879, 8vo, pp. 28 [one of the ablest and most creditable efforts of a most able and accomplished teacher].—CARIES OF HUMAN TEETH. By FRANK ABBOT, M.D. Reprinted from the *Dental Cosmos*, 8vo, pp. 20, illustrated.—POSTURE AS A MEANS OF RELIEF IN STRANGULATED AND INCARCERATED HERNIA. By FRANK H. HAMILTON, A.M., M.D. 8vo, pp. 20.—NOTES ON THE ESTIMATION OF UREA AND ON THE REVISION OF THE U. S. PHARMACOPŒIA in 1880. By EDWARD R. SQUIBB, M.D. 8vo, pp. 4.—THE HAND AS A CURETTE IN POST PARTUM HEMORRHAGE. By HENRY P. C. WILSON, M.D. 8vo, pp. 5.—AN ADDRESS UPON THE LIFE AND CHARACTER OF LUNSFORD PITTS YUNDELL, M.D. By RICHARD O. CARLING. 8vo, pp. 10.—GALVANISM IN THE TREATMENT OF SCIATICA. By V. P. GIBNEY, M.D. 8vo, pp. 26.—SUPPLEMENTARY RECTAL ALIMENTATION, and Especially by Defibrinated Blood, as Applicable to a large Range of Cases in which Nutritive Enemata have not heretofore been Employed. By ANDREW H. SMITH, M.D. New York, 8vo, pp. 25.—ON THE PERMANENT REMOVAL OF HAIR BY ELECTROLYSIS. By GEORGE HENRY FOX, M.D. New York, 1879, 8vo, pp. 4.

Chloral as an Antidote.—Prof. Huseman's series of observations show that chloral acts as an antidote to strychnia, brucia, and thebaia, lessening the spasm and even preventing death. Under its employment, in non-fatal doses the spasms produced by ammonium chloride are diminished or even stopped. Death, nevertheless, occurs, probably from the paralyzing effects of both substances upon the respiratory tract. The quantity of the poison which can be counteracted by chloral appears to be considerably greater in the case of picrotoxin than in the case of codeia. Of the latter the ordinarily fatal dose or even one-half as much greater can be counteracted and rendered harmless, but twice the fatal dose cannot be deprived of its fatal influence. Calabarin is counteracted in about the same degree as codeia. The spasms caused by carbolic acid are not arrested by chloral.—*Med. Times* from the *Lancet*.

NOTES, QUERIES AND ANSWERS.

[*Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us as come within the scope of this journal, provided they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue. Unless special instructions to the contrary accompany the query, the initials of the correspondent will be quoted at the head of each answer.*

No. 598.—**Tropæoline** (B., Baltimore).

This substance, which has been recommended as an indicator in alkalimetry (see NEW REM., 1878, p. 149), and which was originally discovered by Otto N. Witt, is manufactured by Williams, Thomas & Dower, in London, and exists in several grades, which possess different properties. Six different varieties are denominated as follows: Tropæoline *Y* (=yellow), T. *O* (=orange), T. *OO*, T. *OOO* No. 1, T. *OOO* No. 2, T. *OOOO*. The first, tropæoline *Y*, is the acid sodium salt of oxy-azobenzol-sulphonic acid; T. *O* is the acid sodium salt of metadioxy-azobenzol-sulphonic acid, T. *OO* the potassium salt of phenyl-amido-azobenzol-sulphonic acid, T. *OOO* No. 1 and No. 2, the sodium salts of derivatives of α and β naphthals. The last one, T. *OOOO*, is an isomer of the two latter, and is produced by acting with diazobenzol upon naphtholsulphonic acid. Its preparation is very expensive, hence it is not manufactured at present. As we cannot spare the space to explain the chemistry of the above-named acids, we must refer you to the original papers, which you will find in *Berichte d. Deutsch. Chem. Ges.*, 1878, No. 5; 1879, p. 258. *Dingler's Polyt. J.*, vol. 225, p. 503; vol. 228, p. 285; vol. 232, p. 273.

No. 599.—**Paraffin** (S.).

Full information on the manufacture and source of paraffin may be found in *Muspratt's Chemistry; Watt's Dictionary of Chemistry; Johnson's New Universal Encyclopædia* (under petroleum, paraffin). *P. Field*, The Paraffin Industry in the *American Chemist*, V., 169 (a very interesting article); *Albrecht, M.*, Das Paraffin und die Mineralöle, Stuttgart, 1874; *Wagner's Jahresberichte der Technologie*, published annually, etc.

No. 600.—**Pharmacy Laws in Missouri** (X., Cumberland, Md.).

The pharmacy law of Missouri applies to the city of St. Louis only. These laws are very much like those in force at other places, requiring examination and registration, etc. In other parts of the State (Kansas City, for instance), so far as we have been informed, the only conditions of keeping open shop are the payment of the usual taxes required from all merchants, namely, a city license, and a State and county tax. The State license is based on the amount of stock on hand, which is $4 per $1,000 stock on hand, estimated by the owner.

No. 601.—**Cotton Tree** (W., Charleston, S. C.).

This is a tree belonging to the nat. fam. Bombaceæ (sometimes classed under Sterculiaceæ). This whole family is almost entirely tropical, and is closely allied in botanical as well as in medicinal properties to the Malvaceæ. But in addition to gum and mucilage (like the latter), the members of the family mostly contain also bitter and astringent substances. The cotton-tree is *Eriodendron Caribæum* Hook. (=*E. anfractuosum*, *β. Caribæum* DC., *Bombax pentandrum* Jacq.; *B. occidentale* Spr.), native of the West Indies. The bark of the root is reputed to be emetic and at the same time carminative; but when administered in conjunction with tamarind-pulp it is said to be laxative and diuretic. A decoction of the bark of the stem is used externally in inflammations and eruptions; the leaves, young fruits, and the flowers (which have a cheesy odor) are used as demulcents and emollients; and the seeds are employed for making emulsions. A gum which is exuded by the tree is used in India, in solution with spices, in bowel complaints. The tree is called "Cotton-Tree," because its numerous seeds, which are smooth and black, are enveloped in a very fine, soft silky wool.

No. 602.—**Colored Epsom Salts** (D., Fairview, Ky.).

This correspondent has sent us a sample of Epsom salts, purchased from a wholesale house in Philadelphia, which exhibits, on solution in water, a faint brownish rose tint. He thought it was an aniline color. We have examined the sample, but have not been able, owing to its small quantity, to obtain more than a *trace* of coloring matter, which we are inclined to think was no aniline color. There was not enough to try by decisive tests. Perhaps some of our readers have had more chance of examining this, unless the coloring matter was, as we presume, an accidental admixture in the particular lot sent to our correspondent.

No. 603.—**Van Swieten's Solution** (J., Montreal, Can.).

The original *Van Swieten's* solution is that adopted into the French Pharmacopœia, and is prepared as follows:

Bichloride of mercury	1 part.
Alcohol, 80%	100 parts.
Distilled water	900 "

It is called "Liqueur de Van Swieten; Solution antisyphilitique de Van Swieten; Liqueur d'Oxymuriate de Mercure." It has been received into many other pharmacopœias or formularies with various modifications.

Mauriac has lately proposed the following, under the name "Liqueur de Van Swieten modifié." Its formula is given by Bouchardat (in *Annuaire de Thérap.*, 1879, p. 230) as follows:

Bichloride of mercury	1 gm.
Alcohol	95 "
Syrup of morphia	250 "
Orange-flower water	100 "
Distilled water	550 "
Spirits of peppermint	4 "

A tablespoonful of this solution contains two centigrams ($\frac{3}{10}$ grain) of corrosive sublimate.

Syrup of morphia, quoted in the preceding formula, is prepared thus:

Morphia hydrochlorate (muriate)	0.05 gm. or 1 pt.
Syrup	98.00 gm. or 1,960 pts.
Distilled water	2.00 gm. or 40 pts.

No. 604.—**Liquefied Nitrous Oxide and Sulphurous Acid** (B. A., Saratoga).

Liquefied nitrous oxide (so-called) or laughing gas, forms an article of trade; it may be had in cylinders holding from 100 to 1,600 gallons of *gas*, condensed to a liquid. The liquefied gas is charged for at the rate of 4½ cents per gallon of *gas*. It may be obtained from the firm of S. S. White, the well-known dentist of Philadelphia, New York, etc.

Liquefied sulphurous acid gas is not an article of trade in this country, at least to our knowledge. It is, however, regularly manufactured by Raoul Pictet, in Geneva (the same who succeeded in condensing oxygen, hydrogen, and nitrogen), and is sent to market in copper cylinders.

Mistura Ferri et Conii; Correction.

In the formula given on page 156 (of our May number), the quantity of Tinctura Cinnamomi Co., should be 8 fl. ℥.

Application for Indolent Sores.—A solution presented at the Dublin Pharmaceutical Conference was prepared by shaking tincture of iodine with a piece of fused potash until the color was removed, and covering the iodoform produced by the addition of eau de cologne or lavender water. Lint dipped in this solution and afterwards dried, proved a pleasant and efficacious application for indolent sores.

PRESCRIPTIONS AND FORMULÆ.

Court Plaster.—Soak isinglass in a little warm water for seventy-four hours, then evaporate nearly all the water by gentle heat, dissolve the residue in a little proof spirits of wine, and strain the whole through a piece of open linen. The strained mass should be a stiff jelly when cool. Now stretch a piece of silk or sarsenet on a wooden frame, and fix it tight with tacks or pack-thread. Melt the jelly and apply it to the silk thinly and evenly, with a badger-hair brush. A second coating must be applied when the first has dried. When both are dry, apply over the whole surface two or three coatings of balsam of Peru. Plaster thus made is very pliable and never breaks.

Huile de Floride is olive oil perfumed. 60 grammes 4*s*.

Huile iodée de Berthé—Berthé's Iodized Oil.—A slightly-colored solution, made with the aid of heat, of 1 part iodine in 200 parts almond oil.

Huile iodée de Personne.—A solution of 1 part iodine in 150 parts almond oil, prepared like Berthé's.

Huile iodo-phosphorée de Berthé—Berthé's Iodophosphorized Oil.—Huile iodée de Berthé, 100 parts; oleum phosphoratum, 1 part; mix and warm.

Huile de Marrons d'Inde, Huile antigoutteux Genevoix.—Horse Chestnut Oil, Genevoix's Antigout-Oil (Genevoix).—The meal of horse-chestnuts is extracted with ether, the ether distilled, and the oil remains. The horse-chestnut oil of commerce is another fatty oil.

Hoyt's Hiawatha Hair Balsam or Hair Restorative (sold by David Wright, 112 South street, New York). A 1-per-cent solution of silver nitrate in ammonia.—*Chandler*.

Martin's Syrup of Licorice.—

1. *Syrup of Extract of Licorice* (Syrupus Extracti Glycyrrhizæ).

Extract of licorice	50 parts.
Distilled water	150 "
Tartaric acid	20 "
Tincture of fresh lemon-peel	30 "
Syrup	850 "

Dissolve the extract, previously cut into small pieces, in the distilled water (cold); then add the other ingredients.

2. *Syrup of Licorice Root* (Syrupus Radicis Glycyrrhizæ).

Licorice root, peeled and coarsely powdered	500 parts.
Distilled water	1500 "
Tincture of fresh lemon-peel	30. "
Tartaric acid	20 "
Sugar	q. s.

Exhaust the root with the water (cold), to each 100 parts of the solution add 190 parts of sugar, and afterwards the other ingredients.

Antiseptic Gauze and Cotton.—Although we have already given one or the other of the below-mentioned formulæ for the preparation of antiseptic gauze, we take this occasion to republish a series of the most approved formulæ, in order to answer the inquiries of several correspondents:

1. *Lister's Carbolized Gauze.*

Paraffin	7 parts.
Resin	5 "
Carbolic acid	1 "

Melt the paraffin and resin and add the carbolic acid. The mixture contains 7.7% of carbolic acid. The original formula of Dr. Lister prescribed that the mixture should be applied by means of a syringe, provided with a sprinkling nozzle, upon the gauze, and that the latter should then be heated under pressure in an air-tight apparatus. For some time past, manufacturers of this gauze have found it more advantageous to dip the gauze into the mixture, and then pass it through rollers in order to remove the excess.

All carbolized gauze must be kept in air-tight boxes, to prevent evaporation of the carbolic acid.

2. *Bruns' Carbolized Gauze.*

Resin, in coarse powder	400 gm. (14 av. oz. 48 gr.)
Castor oil	40 gm. (1 av. oz. 180 gr.)
Carbolic acid	100 gm. (3 av. oz. 230 gr.)
Alcohol	2 litres (67½ fl. ℥ .)

Dissolve the first three ingredients in the alcohol. Saturate the gauze with it thoroughly, wring it out and dry it by hanging it up horizontally, or by shaking it, spread out in lengths of about seven yards; if done in the latter way, two persons holding the two ends and shaking it up and down, it will be sufficiently dry in a few minutes.

This gauze is much softer and pliable than Lister's, and is free from the drawback of irritating the skin, which is sometimes caused by paraffin.

The above solution contains 10% of carbolic acid.

3. *Eilau's Carbolized Gauze.*

Linseed oil, boiled	4 oz.
Yellow wax	2 "
Resin	4 "
Oil of turpentine	8 "
Carbolic acid, Calvert's No. 2	1 "

Melt the first three ingredients, then add the other two. Immerse the fabric in the liquid and pass it through a clothes-wringer several times; then fold it, wrap it in oiled silk or carbolized paper, and keep it in a well-closed tin-box. The above solution contains a little over 5% of carbolic acid.

4. *Pohl's Carbolized Gauze.*

Deprive the gauze of fat or grease by treatment with caustic soda, thorough washing and drying. Then make a mixture of 100 parts of pure carbolic acid and 5 parts of strong alcohol, of which about 4 grammes (1 ʒ) are sprinkled upon each square metre (a little over a yard) of the fabric. This is then introduced into a copper boiler which is provided with a safety valve, and is to be hermetically closed, where it is heated to a temperature of 120° C. (= 248° F.).

5. *Benzoated Gauze or Cotton* (Bruns).

This is either made with a 5% or with a 10% solution, namely:

a. 5% Solution.

Benzoic acid	50 gm. (1 av. oz. 334 gr.)
Castor oil	20 gm. (309 gr.)
or Castor oil	10 gm. (154 gr.)
Resin	10 gm. (154 gr.)
Alcohol	2,430 cc. (82 fl. oz. 110 min.)

b. 10% Solution.

Benzoic acid	100 gm. (3 av. oz. 231 gr.)
Castor oil	20 gm. (309 gr.)
or Castor oil	10 gm. (154 gr.)
Resin	10 gm. (154 gr.)
Alcohol	2,360 cc. (79 fl. oz. 447 min.)

The gauze or cotton (which latter should have previously been deprived of oil), is dipped in the liquid, expressed, and dried at a gentle heat.

6. *Salicylated Gauze or Cotton* (Bruns).

a. 5% Solution and *b*. 10% solution are prepared exactly like the preceding.

7. *Benzoated or Salicylated Gauze or Cotton* (Thiersch).

These are prepared like those under Nos. 5 and 6; only in place of castor oil an equal quantity of glycerin is used. But this is found not to entirely prevent the loss of benzoic or salicylic acid in the shape of fine dust on handling.

8. *Borated Gauze or Cotton.*

Boracic acid.....10 oz.
Glycerin.....4 fl. oz.
Water.....q. s. to make 100 fl. oz.

Dissolve by the aid of a heat, which should not be raised higher than necessary, but should be kept up during the saturation of the cotton, so that the acid will not crystallize upon it. The cotton must have been previously deprived completely of its fat by boiling with soda, and subsequent thorough washing and drying.

9. *Borated Lint.*

Dr. Vulpius, of Heidelberg, directs to dissolve 1 part of boracic acid in 4 parts of boiling water, to saturate 1 part of lint with this solution, and to dry.

Remedy in Whooping-Cough.

℞ Ammonii picratis.....0.06 (gr. 1).
Ammonii muriatis.....1.25 (gr. 20).
Pulv. extr. glycyrrh.....3.75 (℥ i)
Aquæ.....q. s. ad 90 (3 fl. ℥).

Dose: For a child up to six months: 1 teaspoonful every hour = $\frac{1}{24}$ gr. ammonium picrate; from 1 to 2 years: 2 teaspoonfuls every hour = $\frac{1}{12}$ gr.; from 2 to 5 years: 3 teaspoonfuls every hour = $\frac{1}{8}$ gr.

This mixture was devised by Dr. Dellenbaugh, and the reports of its efficacy have been very favorable. The attacks diminish in severity already after two or three doses, and after a few days the malady had been reduced to symptoms of a simple laryngo-bronchial catarrh.—*Med. Centr. Zeit.* in *Pharm. Zeitsch. f. Russl.*

Madeira Wine from Honey.—The following process is given by a renowned authority on bee-culture, the Rev. Mr. Dzierzon, who pronounces the product as exactly similar to Madeira, and to be "a royal beverage."

Mix 25 lbs. of honey in a bright copper boiler with 50 quarts of soft water, boil gently and skim. After half an hour add gradually 3 lbs. of finely powdered chalk, under constant stirring. A tough mass will rise to the top, which is to be skimmed off, and when no more of it makes its appearance the liquid is poured into a wooden vessel, where it is allowed to cool and to settle. The liquid is then poured off from the sediment (chalk), transferred to the boiler, mixed with 6 lbs. of finely-powdered, well-burnt charcoal, and boiled gently for two hours. It is then again transferred to the wooden vessel (which has been cleaned), allowed to cool, and filtered through a bag of felt or flannel. The liquid is again put into the boiler and heated to boiling. The white of 25 eggs having been beaten to foam with water, is now gradually added. The coagulation of the albumen envelops the residuary fine particles of coal and other impurities and rises to the top, whence it is skimmed off. The chalk removes the acidity and the charcoal destroys the waxy taste. After the albumen has been removed, the liquid is kept gently boiling for a short time, then allowed to cool, and poured into a cask, which must be filled so that a small empty space remains below the bung-hole. This is covered with a piece of clean linen and the cask left to itself until fermentation has set in. The liquid is then clarified in the cask in the usual manner, and filled in bottles. It keeps well for over fifty years. The cellar should be cool, having a temperature of 39 to 41° F., and the bottles should be kept buried in moist sand.—*Pharm. Handelsblatt.*

Bronchine.—Dr. Beverly Robinson says that the proprietary remedy known as "Bronchine" consists chiefly of Epsom salt, spirit of Mindererus, syrup of lemon, and water, united in such proportions as to make up a tolerably palatable mixture; and he offers the following as the formula:

℞ Magnesii sulph.....℥ i.
Liq. ammonii acetatis.....℥ ij. ℥ ij.
Syrupi limonis,
Aquæ.....āā ℥ ij.
M. S.: A tablespoonful every three or four hours.

Indelible Aniline Ink.—Triturate 1¾ grams of aniline-black with 60 drops of strong hydrochloric acid and 42 or 43 grams strongest alcohol; then add to it a hot solution of 2½ grams gum-arabic in 170 grams of water.

This ink attacks steel-pens but little. It is not destroyed either by strong mineral acids or by strong lye.

If the first alcoholic solution of aniline black be diluted with a solution of 2½ grams of shellac (instead of gum-arabic) in 170 grams of water, an ink is produced which may be employed for writing on wood, brass or leather, and which is remarkable for its deep-black color.—*Scientific Am.*

Rung's Steel-Pen Ink.—Dissolve 16 parts of extract of logwood in 1,000 parts of water, and add 1 part of neutral potassium chromate.

Sympathetic Inks.—

Brown.—On dissolving 1 part of potassium bromide, and 1 part of copper sulphate in 20 parts of water, and writing with the solution on paper, *very careful* heating will turn the writing brown.

Yellowish-green.—Writing done with a solution of 2 parts of potassium chromate, 2 of nitric acid, 2 of sodium chloride in 40 parts of water, turns *yellowish-green* on gentle warming.

Blue.—A solution of equal parts of sodium chloride and cobalt chloride in 20 times the amount of water produces lines which turn *blue* on gentle warming.—*Neueste Erfind. und Erfahr.*

Gloss for Starch.—This may be produced by adding to the starch sufficient of the following mixture:

Spermaceti, 50; gum-arabic, 50; alum, 50; glycerin, 125; water, 725 parts; with the addition of a perfume, if desired.—*Chem. Zeit.* in *Ph. Zeitsch. f. Russl.*

Barometer-Paper.*—This is paper impregnated with a so-called sympathetic ink, which alters its color by a change of temperature. The most delicate substance to accomplish this is *sulphocyanide of cobalt*, originally proposed by Grotthus. This is prepared by adding an alcoholic solution of potassium sulphocyanide to an aqueous solution of cobaltous sulphate, until no more potassium sulphate separates. The whole is transferred to a filter, and the residue on the filter (potassium sulphate) washed with alcohol. The dilute filtrate may be used as it is, for impregnating paper, or it may be concentrated by very careful evaporation at as low a temperature as possible. The salt may be obtained crystalline by removing the alcoholic menstruum in the vacuum of an air-pump. It forms violet columns, soluble in water with red color. Paper impregnated with the *alcoholic* solution, or on which tracings have been made with the latter, turns reddish in *dry* air, but assumes a *blue* color at the slightest elevation of temperature.—*Neueste Erfind. und Erfahr.*

Application in Erysipelas (Dr. Cavazzani).—

Camphor.....1 part.
Tannic acid.....1 "
Ether.....8 parts.

—*L'Orosi*; and *La Farm. Mod.*, 1879, 98.

Roussel's Mixture for Amenorrhœa and Dysmenorrhœa.—

		or
Tincture of cuscuta.....	15 drops.	15 drops.
" of nux vomica...	15 "	15 "
" belladonna.....	15 "	15 "
" cinchona.....	16 "	16 "
Orange-flower water.....	9 gm.	150 min.
Syrup.....	30 "	1 fl. oz.
Distilled water.....	180 "	6 fl. oz.

Dose: A tablespoonful every three hours.—*La Farmacia Moderna*, 1879, 98.

Simon's Tonic Powders.—

		or
Powdered yellow cinchona...	10 gm.	154 grains.
Prepared chalk.....	10 "	154 "
Rhubarb.....	5 "	77 "
Subcarbonate of iron.....	4 "	62 "

Dose: A pinch (about 10 grains) before each meal.—(*Ibidem*).

* See also notice on the "Cobalt-Hygrometer" in NEW REM., 1878, p. 372.

Russian Gargle.—In chronic irritations of the throat, in acute angina, etc.

		or about
Carbolic acid	15 gm.	½ oz.
Tannic acid	15 "	½ oz.
Alcohol	60 "	2¼ fl. oz.
Distilled water	120 "	4 fl. oz.

A teaspoonful mixed with half a tumbler of water to be used as a gargle, once a day.

Unguentum Calcii Oleatis (Ointment of Oleate of Lime).—

Caustic lime	1 part
Oleic acid	8 parts.

Rub them together for a short time; then allow the mixture to stand for two hours; afterwards apply a gentle heat until all the lime is dissolved. On cooling, it generally acquires a stiff consistence, which is prevented by the addition of

Vaseline	1 part.

—W. W. WILL, *in Pharm. J. and Trans*, May 31st.

Syrupus Juglandis Compositus (Syrupus antirhachiticus Vanier).—

Extract of walnut-leaves	20.00 grams.
" cinchona	10.00 "
Dissolve, by digestion, in	
Alcohol	20.00 "
Sherry wine	30.00 "
Syrup, simple	60.00 "
Then add a solution of	
Potassium iodide	5.00 "
Oil-sugar of anise	15.00 "
Syrup, simple	850.00 "

To completely deodorize Cologne-Spirits.—The last rectification of the alcohol should be performed with addition of pure fused sodium acetate. The latter does not absorb or retain an appreciable amount of water, but the last traces of foreign odorous bodies, particularly of fusel oil, are remarkably well retained by the salt. For a still of one hundred and fifty to two hundred litres (about forty to fifty-three gallons) capacity, five kilograms (11 lbs.) of the salt are sufficient, and may be used during ten or fifteen distillations, according to the quality of the alcohol. The salt may be restored to its former purity by dissolving in water, filtering through charcoal, evaporating and fusing. Of course, crude spirits *cannot* be purified by this method.—*Chem. Zeit.* in *Ph. Zeitschr. f. Russl.*

Malassez' Solution.—This solution is of the same specific gravity as fresh blood, and is intended to be mixed with the latter in any definite proportions, in order to be able to count the blood-corpuscles contained in it. It is composed of

Mucilage of gum-arabic (1 in 2 by weight)	3.75 parts.
Sodium sulphate	1.875 "
Sodium chloride	1.03 "
Distilled water, enough to make	100.00 "

This liquid should be freshly made when wanted, as it does not keep long, and should be filtered before use.—DR. VULPIUS in *Pharm. Zeitschr.*

Ethylate of Sodium.—DR. PURDON, of Belfast, finds ethylate of sodium quite specific as a remedy for nævus, a case in which he employed it having been cured after four applications. He has also removed by its aid a small patch of epithelial cancer of the lower lip; and three cases of lupus, and one of warty growth affecting the back of the hand were reported to be progressing favorably. The effects as noted in the case of nævus were, 1, removal or absorption of water from the tissue into the ethylate; 2, destructive action as a caustic from the caustic soda which is formed; 3, coagulation from the alcohol that is produced; 4, prevention of decomposition of the dead organic substances.—*Cincinnati Lancet and Clinic.*

NEW PATENTS.

[*The following list is compiled from official sources, especially for* NEW REMEDIES, *by S. H. Wales & Son, Solicitors of Patents, 10 Spruce St., New York, who will furnish gratis to subscribers any information relating to this department.*

PATENTS GRANTED DURING APRIL, 1879.

April 1st.

Dental Engine, H. Laurence ... 213,909
Dental Plate, W. D. Holbrook ... 213 820

April 8th.

Bottle-stopper, W. H. Hicks ... 214.039
Bottle-stopper, C. G. Hutchinson ... 213,992
Dental-floss carrier, A. P. Merrill ... 213 997
Dental forceps, A. Cobb ... 214,104
Syringe, J. L. Dibble ... 213,978
Syringe, C. B. Dickinson ... 213 979

April 15th.

Candy, medicated, G. P. Brown ... 214,359
Medical compound, W. H. Ridgway ... 214,453
Truss, L. B. Stuart ... 214,469

April 22d.

Bottle-stopper fasteners, T. A. McFarland ... 214,511
Bottle and stopper-fastener, C. H. Nye ... 214,691
Syringe, John L. Connable ... 214,552

April 29th.

Bottle-stopper and fastening, L. La Valley ... 213 927
Bottle-stopper and fastening, J. Schinzel ... 214,958
Suppositories, apparatus for moulding, H. R. Heyl 214,775
Testicle-supporter, S. Cooper and H. Hosford ... 214,888
Vapor-bath, J. Spruill ... 214,963

TRADE MARKS REGISTERED DURING APRIL, 1879.

Medicinal Preparations.

7,140. Charles B. Kingsley, Northampton, Mass. The portrait, substantially as shown in the fac-simile, the name or title "Dr. Hooker's," and the autograph signature "John Hooker, M.D."

7,145. Jahne & Co., Jersey City, N. J. The monogram formed of the letters "J. H. & C."

7,152. Jules Tardos, San Francisco, Cal. The device or pictorial representation of a pilgrim with rosary and staff, treading a narrow path in a direction away from the cross on a knoll in the background, substantially as shown.

7,155. Peter W. Zeigler and Milton W. Case, Philadelphia, Pa. The arbitrarily selected word "Quillaline."

7,156. Charles S. Hardy, Cambridge, Mass. The arbitrary word-symbol "Laxina."

7,169. American Absorptive Pad Co., Philadelphia, Pa. The representation or figure of a spread eagle carrying in his beak a suspended pad, substantially as shown.

7,177. Quincy A. Scott, Pittsburgh, Pa. The word-symbol "Roseline."

7,186. Rohrbach & Co., Baltimore, Md. The representation of a mortar and pestle bearing the monogram "C. T. C. B." and the wreath, as shown.

7,190. Hill & Davis, Pittsburgh, Pa. The arbitrarily selected letters "B. H."

7,197. Henry T. Buttle, New York, N. Y. The fanciful word-symbol "Tarlemon."

7,200. Wm. G. Foster, Mankato, Minn. The figure with one hand grasping a bundle of thunder-bolts issuing from the clouds, and the other guiding the thunder-bolts in a shower upon a medicated pad, substantially as shown.

7,204. Dr. J. G. B. Siegert & Hijos, Port of Spain, Trin-

dad. The fac-simile or autograph signature of Dr. J. G. B. Siegert, as shown.

7,207. Alfred Blum, San Francisco, Cal. The word-symbol "Yosemite" and the monogram composed of the letters "Y. B."

7,211. Lawrence Hesselroth and John O. Camph, Chicago, Ill. The word-symbol "Equicura."

7,215. Wm. C. Schultz, St. Louis, Mo. The arbitrarily selected words "Des Alten Schäfer's Thomas."

7,219. Spencer & Browne, Greenville, Tenn. The name "Dr. Clark's," the central circular device and ribbon, and the arch and scroll, substantially as shown.

7,221. C. E. Williams & Co., Stockton, Cal. The word-symbol "Australianx" and the pictorial group of sheep, substantially as shown.

7,229. Joseph A. Heintzelman, Philadelphia, Pa. The figure of an angel surmounting the mortar.

7,235. D. Linn Gooch, Ironton, Ohio. The arbitrarily selected word "Mexican," and the name or title "Gooch's."

7,239. Fountain & Hargraves, Carterville, Mo. The name "Fountain & Hargraves," the word-symbol "Acme," formed in Greek characters, and the figure of the lion-dragon, all substantially as shown.

7,243. Southern White Lead Co., St. Louis, Mo. The symbol of the crescent.

7,253. Mary J. Donovan, Kingston, N. Y. The name "Donovan's," and the portrait of a lady.

Soap, Perfumery, etc.

7,154. Francis S. Lincoln and Thomas M. Lincoln, Providence, R. I. The arbitrarily selected words "Woman's Friend."

7,161. Cottan et Cie., Paris, France. The word-symbol "Société Hygiénique," preceded by the firm-name "Cottan et Cie.," accompanied by a scroll, and followed by a medallion bearing the words "Société Hygiénique," and the figure of a small cross.

7,164. A. Raynand, Paris, France. The arbitrarily selected word "Oriza," in combination with a shield.

7,176. John H. Wilson, Pittsburgh, Pa. The word-symbol "Steamboat."

7,196. Francis B. Nichols, Englewood, N. Y. The word "Carmel," and a figure of sprigs or branches, intended to represent olive branches.

7,250. Franklin Hoyt, Philadelphia, Pa. The arbitrarily selected word "Egyptian."

7,251. The Toilet Mask Co., New York, N. Y. The representation or figure of a woman holding up in her hand a mask, as represented.

7,150. Henry J. Linneman, St. Louis, Mo. The name or title "The Lone Star Oil Works," and the arbitrarily selected figure of a large star, having for its centre a small star.

7,159. Rumford Chemical Works, Providence, R. I. The silhouette of the bust of a man having a head-dress of the latter part of last century or the first part of this.

7,168. The Holbrook Manufacturing Co., New York, N. Y. The arbitrarily selected letters "I. X. L."

7,170. Empire Refining Co., Limited, New York, N. Y. A broad arrow, accomponied by the word "Royal."

7,172. Empire Refining Co., Limited, New York, N. Y. A broad arrow accompanied by the word "Sylvan."

7,184. Lake Superior Iron Ore Paint Co., Cleveland, Ohio. The pictorial representation of a globe, substantially as illustrated.

7,191. Southern White Lead Co., St. Louis, Mo. The symbol of a crescent.

7,210. W. H. Crossman & Bro., New York, N. Y. The fancifully selected word-symbol "Venus."

7,223. Parker, Coit & Co., Chicago, Ill. The arbitrarily selected symbol of an escutcheon or shield, having upon its panel the representation of a small shield or seal on a light ground.

7,252. S. P. Wells' Oil Co., Parkersburg, W. Va. The arbitrarily selected word "Monarch."

LABELS.

1,909. "Gelatine Suppositories." John Homer, Boston, Mass.

1,910. "Mrs. R. Leslie Jones' Hair Tonic." R. Leslie Jones, Jacksonville, Fla.

1,911. "Dr. Bliss' Catarrh Bitters." Charles B. Kingsley, Northampton, Mass.

1,913. "Wood's Infallible Cough Remedy." C. S. Wood, Rochester, N. Y.

1,917. "Tankesley's Vegetable Pain Destroyer." J. A. Tankesley, Lynchburg, Va.

1,924. "Poindexter's Carbolic Mouth Elixir." Chas. W. Poindexter, Charlotteville, Va.

1,928. "Holy Land Oil." James Harvey, Toronto, Ontario, Canada.

1,929. "Smith's Asthma Cure." Elam G. Smith, Kentland, Ind.

1,931. "Gross' Rheumatic Remedy." Percival E. Gross, Londonville, Ohio.

1,932. "Kieffer's Peruvian Cure." E. J. Kieffer & Co., Savannah, Ga.

1,934. "Holland Cough Syrup." J. L. Taylor & Co., Ottumwa, Iowa.

1,935. "D. J. Duffy's Improved 'Dr. A. Q. Simmons' Liver Medicine.'" Daniel J. Duffy, St. Louis, Mo.

1,936. "The Bone Dissolvent. Warranted to cure Bone Spavin, Ringbone, Curb, and Splint within 36 hours without injury to the skin." C. G. Horton & Co., Chicago, Ill.

1,939. "Dr. Casad's Indian Strawberry Syrup." Casad & Timmons, Westerville, Ohio.

1,942. "Holland Strengthening Tonic and Liver Invigorator." J. L. Taylor & Co., Ottumwa, Iowa.

ITEMS.

Pennsylvania Pharmaceutical Association.—The Second Annual Meeting of this Association was held in Pittsburgh, on the 10th of June, commencing at half-past ten o'clock in the morning. After the Association was called to order by the President, Charles A. Heinitsh of Lancaster, Dr. Harris of Pittsburgh, chairman of the committee of reception, on behalf of the Pittsburgh College of Pharmacy and the druggists of Pittsburgh, extended to the members of the Association a hearty welcome to the city. John Coyle, Esq., representing the Mayor of the city, who was unavoidably absent, welcomed the Association in a brief speech, and tendered the use of the Council Chamber during the meeting of the Association. *The President* returned the thanks of the members to these gentlemen, and proceeded to deliver his annual address. A committee of three, Prof. Remington, chairman, was appointed to consider the suggestions contained in the President's address and report at the afternoon session.

The Secretary reported the expenditure of $84.50 since the organization of the Association, in correspondence, distributing circulars, and obtaining a charter. Circulars containing information in regard to the nature and object of the Association, and blank applications for membership, were twice sent out to nearly all the druggists in the State. A charter was granted to the Association in Aug., 1878, upon application to the court of Dauphin Co.

The Treasurer reported a balance on hand of $162.95.

The Executive Committee reported that forty, out of those elected to membership at the last annual meeting, had complied with the requirements of the by-laws. At a meeting of the President and Executive Committee, last January, five additional members were elected. These added to those who became members of the Association at its organization make the whole number of members in good standing seventy-one. In consequence of the inability of some to obtain the proper indorsement to their applications, they were not admitted as members. This

difficulty is unavoidable while the membership is small, and limited to certain portions of the State, for, although the applicants may be eligible, yet they have no acquaintance with any of the members, and cannot get the requisite signatures to their applications. *The Committee on Certificate of Membership* reported through the chairman, Prof. Remington. Two sketches were presented, one a copper plate, and the other a lithograph. The committee recommended the lithograph as handsomer and cheaper, costing thirty-five dollars for engraving the stone, and thirteen dollars and fifty cents for one-hundred copies on paper. The report of the committee was adopted. At a later stage in the proceedings, the price of the certificate to members was fixed at three dollars, and two hundred copies directed to be printed.

Delegates to the Amer. Pharm. Association.—Mr. Lemberger presented the report of the delegates to the American Pharmaceutical Association. All that were elected at the last meeting were present at Atlanta, except one whose place was filled by another member, Mr. J. L. Patterson of Philadelphia. Geo. W. Kennedy, chairman of

The Committee on Queries reported twenty three queries for acceptance by members of the Association. On motion of Prof. Maisch, the queries were ordered not to be printed with the proceedings, but on a separate sheet, and without the names of those who had accepted them.

The election of officers for the ensuing year being the next business in order, a committee of five were appointed to make nominations and report at the afternoon session.

Revision of the U. S. Pharmacopœia.

Prof. Maisch offered the following resolution which was adopted:—Resolved, That a committee of ten members be appointed, whose duty it shall be to submit the present United States Pharmacopœia to as careful a revision as can be done during the present year; that the result of their labors be communicated to the President of the Association on or before the 15th day of January, 1880; that these reports be properly arranged under the direction of the President, and attested by the Secretary, and over the seal of the Association be presented to the Decennial Convention which is to meet in the City of Washington, D. C., on the 1st Wednesday of May, 1880, as the contribution of the Pennsylvania Pharmaceutical Association towards the revision of our national Pharmacopœia.

The following members constitute this committee:—Messrs. George, Cressler, W. F. Horn, Lemberger, Kennedy, E. F. Meyers, Zeller, Emanuel, Schaffle, and Wm. Harris.

Miscellaneous and Scientific Papers.

Prof. Debrunner of the Pittsburgh College of Pharmacy occupied the remaining part of the morning session in reading an interesting paper entitled "Contributions to the History of Poisons."

At half-past twelve the Association adjourned to three in the afternoon.

Afternoon Session.

At the hour fixed for commencing the afternoon session, the President called the Association to order.

Election of Officers and Committees.

The committee on the nomination of officers reported as follows:—

For *President*, Charles A. Heinitsh, Lancaster; *Vice-Presidents*, G. W. Kennedy, Pottsville, and George A. Kelly, Pittsburgh; *Treasurer*, J. L. Lemberger, Lebanon; *Secretary*, J. A. Miller, Harrisburg; *Asst. Secretary*, ——.

Executive Committee: C. H. Cressler, Chambersburg; W. F. Horn, Carlisle; and J. A. Meyers, Columbia. The report of the Committee was accepted, and the gentlemen named elected by ballot.

Reports of Committees.

The Committee on the President's Address recommended the adoption of the following recommendations contained therein, which was accepted by the Association. They are as follows: 1st, the *Asst. Secretary* should be a resident of the next place of meeting; 2d, the *Proceedings* of the Association should be published in full from the beginning; 3d, the appointment of a *Committee on Adulterations and Sophistications*, who will be charged with the duty of bringing to the notice of the Association any laws bearing on the subject which may come before the Legislature, and to take steps to secure the passage of proper laws bearing on the subject, and annually make a report on such adulterations and sophistications as may be brought to their notice during the year; 4th, the appointment of a *Committee on Matters of Trade*, which will take cognizance of all matters affecting the pecuniary interests of the members; 5th, the sending of *Delegates to neighboring State Associations* might be instituted by inviting delegations from them to meet us at our next meeting, and that the officers be authorized to appoint delegates to the meeting of neighboring State Pharmaceutical Associations.

The Committee on the Place and Time for the next Meeting reported in favor of Allentown, and the second Tuesday in June, 1880. The report was accepted, and Charles C. Klump of Allentown elected *Asst. Secretary*, in accordance with the first recommendation of the President.

The Committee on Legislation reported that they did not consider it expedient to agitate the repeal of the law taxing druggists for the sale of patent medicines, which was referred to them a year ago, because they learned, in consulting one of the State senators, that the Legislature, to increase the present deficient revenue, had in contemplation to tax the sale of patent medicines, but on further examination found such a law already in force.

In order to carry out the third and fourth recommendations of the President, the following committees were appointed: *Committee on Adulterations and Sophistications*, J. A. Miller, Joseph Abel, and G. W. Kennedy. *Committee on Trade Interests*, Dr. Harris, Dr. Egle, Dr. Henderson, J. L. Patterson, Dr. Parry, J. K. Burns, J. P. Thompson, W. D. E. Hays, J. H. Stein.

Publishing the Proceedings.

The Secretary and Executive Committee were authorized to publish in a cheap form five hundred copies of the Proceedings of the Association from its organization.

Miscellaneous and Scientific Papers.

Mr. Kennedy exhibited some fine specimens of crystals of sulphate of sodium, and described how readily it can be made by those who manufacture their own soda-water from the bicarbonate.

The same gentleman also read a valuable paper on Aspidium marginale.

Mr. W. F. Horn followed with an essay on Phosphoric Acid.

Mr. Lemberger showed a variety of specimens of podophyllin, and called attention to the difference in color.

Prof. Remington occupied the attention of the Association a few minutes in the exhibition of his still.

Miscellaneous Business.

The following members were elected delegates to the meeting of the American Pharmaceutical Association at Indianapolis, in September next: Messrs. C. A. Heinitsh, Geo. Ross, W. F. Horn, Geo. A. Kelly, and Wm. Harris.

The officers were requested to procure a suitable seal for the Association.

Prof. Maisch exhibited specimens of rare drugs, and made some comments upon them.

At the close of the afternoon session, which continued till six o'clock, the following resolution was offered:

Resolved, That the thanks of the Association are due, and hereby tendered, to his Honor the Mayor and Councils of the city of Pittsburgh for the use of the council chamber, and also for the hearty welcome extended by their representatives; also to the representatives of the press of the city of Pittsburgh for their attendance upon

our session and a report of the same; and to the druggists and pharmacists of Pittsburgh for the cordial reception given this Association.

The Association then adjourned to meet in Allentown, June 9th, 1880.

The Executive Committee reported from time to time during the meeting candidates for membership, whose applications they had examined and approved. About sixty were reported and elected by ballot, increasing the list of members to 132.

Pharmacopœial Revision in the Massachusetts Med. Soc.—At the recent meeting of this society, the Committee on Revision of the U. S. Pharmacopœia concluded its report with the following recommendations:

1. That three delegates be sent to the Pharmacopœial Convention, and that the Society recommend to the Convention the adoption of the metric system of weights and measures, in addition to that now in use, in directions for the making of preparations and in statement of doses.

2. That the Society be of opinion that the next edition would be more valuable if more information be added concerning botany, chemistry, therapeutics, and physiological effects, antidotes, and *average* doses of drugs included in the list.

3. That the material accumulated by the Committee in favor or against drugs be placed in the hands of delegates to be appointed.

4. That an annual supplement be prepared after publication of the decennial revision.

5. In order to increase its value, that the decennial revision be prepared by the best talent, said talent to be secured by proceeds from a proposed fixed copyright interest in the sale of the work.

6. Finally, that this report, and the material collected, be presented to the next Pharmacopœial Convention.

The committee apointed consists of Drs. R. Amory, R. S. Edes, and E. S. Wood.

School of Pharmacy, University of Michigan.—At the first reunion, in Ann Arbor, Mich., of the Pharmacy Class of 1876, one-half the original graduates were present. Several meetings were held, and a reception given by Prof. and Mrs. Prescot was attended by all.

The following officers were elected to serve the class until the next reunion in Ann Arbor, in June, 1882. President, F. T. Bower, Toledo, Ohio; Vice-President, Jos. J. Pierron, Lincoln, Ill.; Secretary and Treasurer, Henry B. Parsons, Washington, D. C.

Together with members present from other classes it was determined to form an alumni association to include all graduates of the School of Pharmacy. The following gentlemen were appointed to make preliminary arrangements, and report a constitution and by-laws in 1880.

Class of 1876, J. N. Buckham, Flint, Mich. Class of 1877, W. F. Griffith, Howell, Mich. Class of 1878, Hugo Thum, Grand Rapids, Mich. Class of 1879, Arthur S. Parker, Richland, Mich.

After attending the various exercises of commencement week, the class disbanded, to meet again in 1882.

The Graduating Class.—The following are the names of the twenty-four graduates at this school on the 26th of June, who received the degree of Pharmaceutical Chemists: Ira Austin Armstrong, James Nelson Ayres, Royal Frank Bowen, Willis G. Campbell, Ph.B., William Dennis Church, William Warren Cole, Charles Whatefield Coons, Byron Francis Dawson. John McCoy Eaton, William E. Finley, Channing Thomas Gage, Edwin Peffers Hawley, Philip Stanhope Houghton, Paul Christen Jensen, John Perry Kelly, Robert Fulton Mull, Louis Philip Orth, Daniel Edward Osborne, Arthur Sheldon Parker, Arthur Hubert Vandivert, Alfred Levi Walker, Albert Christopher Wehrli, Ph.C., Frederick Lynn Wilson, Lewis Newton Wood.

American Pharmaceutical Association.—The twenty-seventh annual meeting will be held in the city of Indianapolis, Indiana, on the second Tuesday in September (the 9th), 1879, at 3 P.M. and the following days.

Arrangements are being made by the pharmacists of Indianapolis to get a reduction of fare from all points of the U. S. and Canada, and there will, no doubt, be a large gathering.

Indianapolis is of easy access from all parts of the country, a great railroad centre, and pleasantly located. Our friends in the West will give us a hearty welcome and try and make our stay as enjoyable as possible.

It has been some years since the Association held its meeting in a Western city, and we may count upon large accessions to our membership. It is also expected that a large number of our friends from the South and Southwest will avail themselves of this opportunity to attend the meeting, who were unable to be present at the Atlanta meeting in consequence of the postponement of the same, or the unavoidable cause arising from the then but recent afflictions of the Mississippi Valley.

Mr. Eli Lilly, the Local Secretary at Indianapolis, will be pleased to correspond with exhibitors or receive articles for exhibition and make arrangements for the display of the same.

The chairmen of committees, and all members who have accepted queries, or who have observations to communicate, are requested to have their reports ready at the first session, and to communicate with the Committee on Papers and Queries.

Particular attention is directed to the still incomplete centennial fund. The contributions to this fund have been very limited by the members, and yet it is one of great importance to the Association, as well as to researches of science. Let every member of the Association, and local Pharmaceutical Associations as a body, contribute something to this fund, and it will be a lasting monument to the American Pharmaceutical Association, to the generosity of the druggists of Philadelphia, and to the members of this Association.

G. J. LUHN, *President.*

CHARLESTON, S. C., June 10th, 1879.

The new Elements.—Since 1877, the following new elements have been discovered: *Davyum*, discovered by Kern and named after Sir Humphrey Davy; *Mosandrium*, discovered by Prof. Lawrence Smith, of Louisville, Ky., and named after the Swedish chemist Mosander; *Philippium*, discovered by De La Fontaine, and named after Mr. Philippe Plantamour, of Geneva; *Yterbium*, discovered in the earth yttria by Prof. Marignac, of Geneva; *Decipium*, discovered by De La Fontaine, and so named because of its deceptive properties (from *decipio*, to deceive); *Neptunium*, announced by Hermann in 1877; *Lavœsium*, announced by Pratt in 1877; *Scandium*, announced (March 12th, 1879) by Nilson of Upsala.

Exports of Camphor, etc., from Japan.—During 1877, the exports from various Japanese ports were, of:

Camphor	14,312 piculs,	@ $16.00	=$229,000.
Isinglass	7,023 "	@ $30.00	=$210,700.
Mushrooms	6,932 "	@ $45.00	=$311,962.
Ginseng	418 "	@ $500.00	=$209,000.
Sulphuric acid			$64,400.

The latter is now manufactured at the Mint in Osaka in large quantities. In 1875, the value of the acid exported was only $1,500; in 1876 this increased to $34,442; and in 1877 the value was doubled. In addition to this, 5034 piculs were sold to native dealers for home consumption. There being no other sulphuric acid works in the Eastern countries, Japan is likely to have this market all to itself.

Commercial Statistics of Chinese Drugs.—From the *Commercial Reports of H. M. Consuls in China for* 1877 we abstract the following items of interest:

Aniseed Oil was exported from Pakhoi, to the amount of 500 piculs,* in 1877.

Cassia Oil, 500 piculs were exported from the same port.

* 1 picul = 133⅓ lb.

Musk.—Canton exported 37 catties, worth £481 2*s.* Hankow, 24.18$\frac{9}{16}$ piculs, worth £61,886 2*s.*

Cassia Bark.—Canton exported 52,388 piculs, value £14,027.

Turmeric.—Taiwan, or Taiwan-fu upon Formosa, exported 11,350 cwt.

Nutgalls, Chinese.—Canton exported 3,155 piculs, value £5,205. Hankow, 25,583 piculs, value £59,054; the quality of the latter was better; hence the higher price.

Rhubarb. While Canton exported in 1876 576 piculs, value £1,976, the quantity fell in 1877 to 168 piculs, value £456. Tientsin exported in 1877, 959 piculs. The principal place for export of rhubarb is Hankow. The quantities shipped from there were

in	of Shansi Rh.	of Szechuen Rh.
1874	779 piculs.	2,124 piculs.
1875	1,064 "	2,515 "
1876	3,036 "	2,722 "
1877	2,096 "	3,385 "
	(=£23, 584)	(=£12,904).

The Shansi rhubarb is the most esteemed, and fetches the highest price.

China Root.—Export from Hankow 12,075 piculs, value £25,398; from Kewkiang, 3,942 piculs, value £8,247.

Wood-Oil (of *Aleurites triloba*), from Hankow, 241,627 piculs, value £456,839. Large quantities were also exported from other ports, but it is not stated how much of this was shipped abroad, or for other Chinese ports.

Safflower.—Export from Hankow, 6,036 piculs, value £125,367.

Galangal.—Kiungchow exported 2,113 piculs, worth £631.

Star anise.—Export from Pakhoi about 2,000 piculs.

Camphor is only exported from the port of Tamsui, at the north end of the island of Formosa; a small quantity occasionally also from the port of Kelung, not far distant from Tamsui. Next to tea, camphor is the most important article of export from Formosa; the quantity exported in 1877 was higher than that in many preceding years, its value being £23,710. (Quantity is not stated in report.) All but 28 piculs were sent to Hongkong for shipment to foreign countries. A hydraulic press has lately been set up by one of the foreign firms trading here, for pressing the camphor before shipment. Hitherto, owing to its being comparatively loosely packed, and containing a large percentage of water absorbed during its sublimation from the wood, the loss by evaporation between Tamsui and Hongkong was very large. The customs allow for an estimated decrease of 5 per cent; in former years as much as 11 per cent was the allowance. But it is said that the loss in the camphor submitted to the hydraulic press is much less than the customs allowance, and that the new system of packing is attended with most beneficial results. At present, Chinese shippers have not taken advantage of the press, preferring for some inscrutable reason the old method of packing; but before long they will be sure to make use of the improvement, because it will be to their financial advantage, in spite of the heavy first cost for apparatus.

Opium.—The total quantity of foreign opium passed through the custom offices of China, during 1876, was 69,851 piculs, value 28,018,994 taels.*

The report of the Imperial Chinese Maritime Customs for 1877 not having yet come to hand, we give from the Consular Reports the following statistics of the *Import of Foreign Opium* into China during 1877, so far as this article has come to the official notice of the Customs officers. The quantity smuggled cannot be estimated.

Amoy.—6,823 piculs = £715,442.

Canton.—324 piculs.

Foochow.—3,363 piculs.

The prices per picul were, for Malwa, $655; Patna, $660; Benares, $655; Persian, $500; Native, $340.

Hankow, 2,485 piculs. From this port there were exported of Szechuen opium in 1874, 110 piculs; in 1875, 893 piculs; in 1876, 1,696 piculs; and in 1877, 1,107 piculs (value £99,540).

Kewkiang, 1,852 piculs=£255,100.

Kiungchow, 724 piculs=£101,771.

Ningpo, 8,563 piculs.

Newchwang, 1,098 piculs (in 1876, 2,303 piculs).

Taiwan, 2,853 piculs.

Tamsui, 1,938 piculs=£218,181.

Tientsin, 3,769 piculs.

Wuhu, 1,161 piculs=£163,757.

The Rhode Island Board of Pharmacy, recently appointed by the Governor, to serve for the ensuing term of three years, is as follows: Albert L. Calder, Wm. B. Blanding, and Norman N. Mason, of Providence; James H. Taylor, of Newport; Wm. E. Clarke, of Providence; Walter E. Colwell, of Pawtucket, and Albert B. Collins, of Westerly.

Imitation Amber.—Of late, an imitation of amber, which cannot be distinguished from the genuine article by inspection, has made its appearance on the market. It contains copal, camphor, turpentine, and other ingredients, becomes electric by friction, and is used for manufacturing mouth-pieces for pipes, cigar-holders, ornaments, etc. The composition may be distinguished from genuine amber by its lower melting point, as it quickly softens and melts when laid on a hot plate, while amber requires a comparatively high heat; and further by the action of ether, which softens the imitation until it may be scraped away with the finger-nail, while true amber is absolutely insoluble in cold ether.—*Pharm. Zeit.*, No. 34.

Sarepta Balsam, a nostrum which is used in some parts of Europe, has lately been offered for sale in this city. According to A. Marggraff, apothecary in Berlin (*Pharm. Zeit.*, No. 33) it is an alcoholic distillate of calamus and lavender colored with curcuma.

Dr. Carl Theodore Ludwig Neubauer, professor of chemistry and chief of the Agricultural Chemical Laboratory, also professor in the Chemical Laboratory (under Fresenius) at Wiesbaden, died on the night of June 1st from pulmonary disease. Born on Oct. 26th, 1830, at Lüchow in Hanover, he began his career, like many other prominent chemists, as a pharmacist, in 1852 won the prize of the "Hagen-Buchholz'schen Stiftung," by his essay on "Analysis of Urine," became afterwards assistant and finally professor at the Chemical Laboratory, under Fresenius, and an authority in the domain of urinology. His text-book, composed in conjunction with Prof. Vogel in Halle, is unquestionably the most thorough and advanced work on Analysis of Urine. (An English translation of the last German edition has lately been published by Wm. Wood & Co.) He was also regarded as an authority in œnological chemistry.

Dr. Karl Heinrich Emil Koch, professor of botany at the University of Berlin, and director of the Botanical Garden, died on May 25th. He was born on June 6th, 1809, and was known as an authority in botanical science.

Edouard Spach, conservator of the Botanical Collections of the Jardin des Plantes at Paris, known as an excellent botanist, died on May 18th, at an age of 78 years.

Dr. August Grisebach, professor of botany and director of the Botanical Garden at the University of Göttingen, one of the foremost botanists of our times, and the best authority on geographical botany, died on May 9th at Göttingen. He was born at Hanover on April 17th, 1814.

Women as Pharmacists.—The Pharmaceutical Society of Great Britain, at a recent meeting, by a vote of 81 to 78 decided not to admit women to the Society.

The First Recorded Case of Anæsthesia.—When Simpson introduced chloroform, its use was opposed on religious grounds, people contending that, according to Scripture, man shoud endure pain and trouble through life. Sir James cunningly met the argument by saying

*1 Haiwan tael=5*s. 9*d.*, to 5*s.* 10½*d.*, more or less. For short, it is usually reckoned as equal to 6 shillings.

that before the performance of the first operation known to history, namely, the removal of a rib from a man's side, the man was put into a deep sleep, and knew nothing of the operation.

Injury to Vanilla in Reunion.—Authentic reports from the island of Réunion (Bourbon) state that a terrific cyclone of three days' duration destroyed most of the vanilla-plantations, and greatly damaged the remainder, so that there will be hardly any harvest this year. The price of vanilla has already risen fifty per cent, and is likely to go still higher.

Phenolith.—This name has been given to mixtures of carbolic acid with proper absorbents, in order to be able to transport or to handle the acid without risk or loss. Cork-chips, saw-dust, cellulose, but particularly infusorial earth, are found best suited for this. Infusorial earth absorbs about fifty per cent of carbolic acid, and forms an apparently dry and easily packed substance.

Imitation Gold and Silver.—Thomas Meiffrer, of Marseilles, has taken out a patent in England (No. 1075 ; March 18th, 1878) for the preparation of alloys, resembling gold and silver, which are made as follows :

Gold-alloy : 800 parts of copper, 28 of platinum, and 20 of tungstic acid are melted in a crucible under a flux, and the melted mass poured out into alkaline water, so as to granulate it. It is then melted together with 170 parts of gold.

Silver-alloy : 65 parts of iron and 4 parts of tungsten are melted together and granulated ; also 23 parts nickel, 5 of aluminium, and 5 of copper, in a separate crucible to which is added a piece of sodium, in order to prevent oxidation. The two granulated alloys are then melted together. Both alloys resist the action of sulphuretted hydrogen.

Chemical Combinations.—*Appleton's Journal* contains a calculation by Berthelot, the eminent chemist, of the number of combinations which may be made of acids with certain alcohols. He says, "If you give each compound a name, and then print 100 lines on a page, and make volumes of 1,000 pages. and place a million volumes in a library, you will want 14,000 libraries to complete your catalogue.

A Poisonous Caterpillar.—*The Journal of the Royal Microscopical Society*, for June, gives an account of a poisonous caterpillar lately discovered in Brazil, and the effects of which, when the spines with which it is covered come in contact with the skin, are described by Mr. E. D. Jones. The species is not named, but the caterpillar is described as being one and a half inches long, thick in proportion to its length ; the body being covered with long reddish-brown hairs growing in tufts arising from the centre of each segment of its body, and at the base of each hair is concealed a venomous spine. The body is soft and fleshy, and of a paler color than the hairs that cover it. The head is small, and whilst the creature is feeding, is nearly covered by a fleshy mouth.

The symptoms caused by it are quite severe, and consist of redness and burning of the part which has been pricked by the spines, and acute pain, extending, when the hand is the part affected, quite to the arm-pit.

[In this country, the larva of the Io moth is capable of causing symptoms quite similar to those here described, although, to judge from the account of the Brazilian larva, they are not indentical species.—Ed. N. R.]

Effect of the Hot Vaginal Douche.—Prof. Rives Jackson, of Chicago, after recommending the vaginal douche at a temperature of 100° to 110° F. (as advocated by Dr. Emmett) for some years, has at length been led to make some careful observations upon its effects, and ascertains that the emptying of the superficial vessels (which has long been known to occur under its influence), is of very short duration, and he is doubtful whether the astringent effect extends at all to the more deeply seated pelvic organs. One patient examined an hour after an injection at 108° continued for twenty-five minutes, presented a relaxed and bright-red vaginal mucous membrane.

If the effect of the hot vaginal douche is what it is claimed to be, it should be especially valuable in cases of vaginitis, yet Prof. Jackson is sure that its employment in such cases proves to be injurious.—*St. Louis Clin. Rec.*

Grindelia Squarrosa as an Antiperiodic.—A contributor to *The Medical Herald*, of Louisville, reports three cases of chronic ague treated with 30-drop doses of Grindelia squarrosa given three times daily, in which much benefit and immunity from recurrence of the disease followed the use of the remedy.

The Therapeutic Value of Lime-Salts.—Perl has attempted the solution of the question whether the salts phosphate of lime in calcic chloride can be absorbed, by some experiments on dogs which are reported in the German *Archives of Pathological Anatomy*. A fixed quantity of very dilute chloride of calcium being administered to a dog, careful analyses of the urine and fæces were made and as a result Mr. Perl found that, under the conditions of the experiment, there was very slight absorption of the lime-salt—a fact which justifies the custom of using this remedy in rickets and tuberculosis.—*Br. Med. Jour.*

Toxic Effects of Linseed Meal.—J. P. Garnoss reports a case in which the use of linseed meal poultice to an ulcer of the leg caused in the patient a swollen and red face with slight inflammation of the eyes. The rash slightly resembled urticaria and was accompanied by slight burning and itching. The patient said that linseed meal always had this effect upon him ; and that upon one occasion it produced the swelling, etc., when, unaware of its contents, he had carried in a basket a few miles for a neighbor a package containing linseed meal. Dr. Parsons had also met with four or five other cases of similar nature. To one of them the smell of linseed meal was as pungent as that of pepper.—*Br. Med. Jour.*

PHARMACEUTICAL CALENDAR.—August.

N. B.—The officers of Societies, Colleges of Pharmacy, Pharm. Associations, etc., not quoted in this Calendar will oblige us by forwarding a schedule of their meetings and a list of officers.

Day of Week.	Day of Month.	Society Meetings.
Tuesday	August 5.	Phila. Coll. Ph.—Trustees' Meet.
		Pittsburgh Coll. Phar.—Trustees' Meeting.
Thursday	" 7.	Phila. Coll. Pharm.—Exec. Board Alumni Asso.
		Louisville Coll. Phar.—Monthly Meeting.
		N. Y. Coll. Ph.—Trustees' Meet.
Tuesday	" 12.	St. Louis Coll. Pharm.—Pharm. Meeting.
		Chicago Coll. Pharm.—Trustees' Meeting.
Wednesday	" 13.	Cincinnati Coll. Phar.—Monthly Meeting.
Thursday	" 14.	Phila. Coll. Phar.—Alumni Asso.
		Maryland Coll. Ph.—Stated Meet.
		N. Y. Germ. Apothec. Society.—Monthly Meeting.
		Newark Pharm. Asso.—Monthly Meeting.
		St. Louis Coll. Phar.—Directors' Meeting.
Tuesday	" 19.	Kings County Phar. Asso. (B'klyn).—Stated Meeting.
		Pittsburgh Coll. Pharm.—Pharm. Meeting.
		St. Louis Coll. Phar.—Trustees' Meeting.
		St. Louis Coll. Pharm.—Alumni Assoc. Scient. Meet.

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